NELSON MANDELA METROPOLITAN UNIVERSITY

MPhil in Conflict Management

SLC 520

TREATISE

AN EXAMINATION OF THE VALIDITY OF THE CONCEPT OF NUCLEAR DETERRENCE WITHIN THE FRAMEWORK OF POST-COLD WAR INTERNATIONAL RELATIONS:

AN ANALYTICAL CONFLICT RESOLUTION APPROACH

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2006

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"*Human beings are reasonable beings, but are men so?"*

Raymond Aron

"*Power over life and death – don't be proud of it.*

Whatever they fear from you, you'll be threatened with."

Seneca

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ACRONYMS

BASIC: British American Security Information Council
CENTO: Central Treaty Organisation
DPRK: Democratic Popular Republic of Korea, i.e. North Korea
FAQs: Frequently Asked Questions
IAEA: International Atomic Energy Agency
ICBM: Intercontinental Ballistic Missiles
ILO: International Labour Organisation
KAP: North's Korea People's Army
MAD: Mutual Assured Destruction
MIRV: Multiple independently targetable reentry vehicle
NATO: North Atlantic Treaty Organisation
NFU: No-First-Use
NMD: National Missile Defense
P5: group of five countries seating permanently in the UN Security Council (namely China, France, Russia, the United Kingdom, the United States)
SAG: United States Strategic Advisory Group
SEATO: Southeast Asia Treaty Organization
SLBM: Submarines Launcher of Ballistic Missiles
STRATCOM: United States Strategic Command
UK: United Kingdom
UN: United Nations
US or USA: United States of America
WMD: Weapons of Mass Destruction
WWI or II: World War I or II

Introduction

The Roman motto *Si vis pacem para bellum* has always been the standard argument for maintaining a war-like appearance while denying war-like intentions. This attitude to “frighten from or away” is called deterrence, from Latin *deterre*. The word has an instrumental sense in English: to scare off another with a purpose.

The world has been experiencing nuclear deterrence for 60 years. People benefiting from it have enjoyed a quietness they attribute to nuclear weapons and the nuclear deterrence they provide.

Actually, nuclear weapons are peculiar in that it is "not the first time that military means decisively influence diplomacy but with nuclear weapons, it is the first time that diplomatic behaviours cannot be explained without considering the military potentials" (Delmas, 1974: 6, 7). Furthermore, nuclear weapons as non-used weapons have never played such a great role in inter-state dialogue. Since 1945, things were "as if the military non-use was inseparable from their diplomatic use, as if not to have used them, one had to let others believe that in some circumstances they would not hesitate to use them" (Delmas: 10).

The utilitarian philosopher Jeremy Bentham (1748-1832) argued that a deterrence effect could be developed if there was both a degree of clarity and predictability in sentencing with proportionality between the crime and the punishment. This assumed that criminals were rational, self-interested and could calculate when the costs of punishment would outweigh the potential benefits of crime. He used the term 'determent' to describe a situation in which what was intended has been achieved. It was later on replaced by the word that describes the strategy intended to produce the effect. By the end of the 19th century, the term 'deterrence' was being used to refer to the policy of influencing the behaviour of potential wrongdoers through the prospect of punishment.

In the first authoritative presentation of the doctrine of deterrence by the US Government in 1955, Secretary of State John Foster Dulles – a lawyer – set out the analogy: "deterrence is a way of getting maximum protection at bearable cost". However, the analogy with criminal law is flawed because the international sphere lacks a supreme authority to enforce laws and enjoy a monopoly of legitimate violence (Freedman, 2004: 9).

Nuclear deterrence is born from the two superpowers’ relations during the Cold War as they were the first countries to get nuclear weapons and they were the main and most powerful rivals in the world. Then new actors joined the game by testing their own nuclear

bombs: the UK in 1952, followed by France in 1960, China in 1964, India in 1974, and Pakistan in 1998. Israel pretends it does not have any nuclear weapons but it is an open secret that they do [1]. France helped Israel to get its weapons and the nuclear explosion in 1979 off the southern coast of Africa probably involved Israel and South Africa (sourced by the Federation of American Scientists, the Wisconsin Project on Arms Control, the Center for Defense Information, etc.). This was confirmed by Mordechai Vanunu, former Israeli scientist who worked on developing the bomb.

The intrusion of new nuclear countries frightened the United States and the USSR because the balance was already fragile and newcomers could break it. Would the game remain "safe" with more players? Therefore in 1968 both countries drafted a treaty to prevent nuclear proliferation. The Non-Proliferation Treaty (NPT) came into force in 1970, at a time when five countries had successfully achieved a nuclear explosion. The NPT officially recognises only these five countries as nuclear-weapons states. They happen to be also the five permanent member states of the UN Security Council. India and Pakistan carried out a nuclear test after 1968 and are therefore referred to as non-official nuclear-weapons states. The new nuclear states adopted and adapted the nuclear doctrine to their needs, their geopolitical interests and their place in international relations.

[1] The Center for NonProliferation Studies estimates its weapons of mass destruction capabilities and programmes (2006) at http://cns.miis.edu/research/wmdme/israel.htm; BBC News (23 August 2000) estimates that Israel possesses 200 nuclear weapons and provides pictures of the Negev Nuclear Research Centre, commonly named Dimona centre; see also Frankel (2006), Norris, Arkin, Kristensen, and Handler (2002: 73-75), Steinbach (2002), and the Wisconsin Project on Nuclear Arms Control's Overview of Israel's Nuclear Weapon Capability (1996).

Nuclear weapons indubitably characterise the Cold War era. Posters and short films were used to inform and prepare the population for a nuclear attack (cf. pictures below).

Picture 1: US Poster encouraging the population to get ready in case of a nuclear attack.

Picture 2: This picture taken in a US school illustrates an exercise in case of a nuclear attack

For most people living in nuclear states, they are weapons of the past. Most people have no idea how many weapons there are on Earth today and believe the issue is outdated. Military budgets prove they are wrong: 10% of the French military budget is allocated to nuclear weapons, the UK is debating the renewal of its Trident nuclear system for the 50 years to come; the estimated 2005 spending on all US nuclear weapons and weapons-related programs is $40 billion (source: The Western States Legal Foundation), more than the entire military budget of nearly every other country in the world, and the US is discussing a programme to renew warheads (Reliable Replacement Warhead). Moreover, France and the US are jointly working on nuclear fusion in military laboratories (Barp in France, Livermore in the US) and nuclear experts suspect them of developing mini-nukes, i.e. low-yield nuclear weapons that could be used on the battlefield. Most nuclear states have indeed reviewed their nuclear doctrine and updated it with new targets, and new enemies. They are called 'rogue states' by the United States (2002 Nuclear Posture Review), and 'terrorist states' by France (President Chirac's speech on January 19, 2006).

However, supporting nuclear deterrence and claiming it is necessary to guarantee one's security is a strong incentive for others to enjoy the same level of security. How can nuclear-weapon states ban other states from having nuclear weapons for their own security without being accused of hypocrisy? The current case of Iran reminds us of the risk of double standards. North Korea is also suspected of developing nuclear weapons,

but there are no rumours of a US attack whereas there are several articles warning of such an event regarding Iran (William M. Arkin, 2006; Hirsch, 2005; Chossudovsky, 2006**;** Aljazeera, 2006; Madsen, 2006 to name a few).

Everyone has in mind the US attack on Iraq in 2003 over the charge that it had weapons of mass destruction. It is difficult not to think that no such military attack happened to North Korea, just because it was likely to retaliate with… weapons of mass destruction, and more precisely nuclear weapons.

The obvious conclusion one can draw from recent history is that nuclear weapons protect the country from an attack and enable it to play on the same level as powerful countries. And when the US lists you as a potential target of a nuclear strike in its 2002 Nuclear Posture Review, as were North Korea and Iraq, you had better be North Korea and claim you have nuclear weapons rather than be Iraq and claim you do not own them.

In addition, the example of Iran, suspected of trying to develop nuclear weapons through a civilian nuclear power programme, brilliantly highlights the reality and the effectiveness of nuclear weapons as a deterrent: the mere possession of weapons "will be seen as an act of defiance against the West – it will be seen as sticking two fingers up to the Americans and Europeans" in the words of a British MP, Mr Gauke. "I have no doubt that such an act of defiance would encourage further acts of defiance of significant proportions against the West. It would also act as a deterrent to Western involvement in the Middle East. Not everybody supports the engagement in Iraq, but nearly everybody supported the involvement in Kuwait. However, *it would be very difficult for the West to take any action in the Middle East once Iran had nuclear weapons*" he adds (our italics) (House of Commons Debate, Feb. 1, 2006). From this example we can conclude that nuclear weapons actually do deter an attack and even an intrusion into others' business, otherwise the West would not worry about proliferation and would not try to keep them for itself.

Nuclear weapons trigger a chain reaction that undermines their deterrent power. To quote the British journalist George Montbiot (January 26, 2006):

> "In nuclear politics, every action is justified by the response it provokes. The US explains its missile defence programme by claiming that other states are developing new weapons systems, which one day it might need to shoot down. In response, Russia has activated a new weapons system, the Topol-M, designed to "penetrate US anti-missile defences" ... Israel, citing the threat from Iran, insists on retaining its nuclear missiles. Threatened by them (and prompted,

> among other reasons, by his anti-Semitism), the Iranian president says he wants to wipe Israel off the map, and appears to be developing a means to do so. Israel sees his response as vindicating its nuclear programme. It threatens an air strike, which grants retrospective validity to Ahmadinejad's designs. And so it goes on. Everyone turns out to be right in the end".

A defence action is interpreted as offensive, causing a defensive action in turn, itself taken as offensive, and so on. Nuclear deterrence is one such defensive act that can be interpreted as offensive and trigger what it is supposed to deter.

We may therefore well wonder whether nuclear deterrence is *the* solution to secure international order and stability, as nuclear-weapons states claim. This treatise intends to show that scaring people and states in order to secure international order is not the best solution. The "peace out of fear" nuclear weapons give us is not true peace. The possession of nuclear weapons justified as deterrence is logically an inducement to proliferate: if it works for you, it must work for me too. And proliferation is precisely a danger to international order and stability. In addition, the conditions present during the Cold War that limited the risks of proliferation and use are no longer met today. There is no longer a clear enemy to deter, and who could be deterred by nuclear weapons. We will show that the end of Cold War enemies led political leaders to invent new enemies to justify their retaining these weapons, helped by the current security ideology spreading all over the globe, fed by terrorist threats. Finally, we will explore other means to prevent conflict from bursting out.

To understand nuclear deterrence today, it is always necessary as for any concept to have a look at its birth and see how and why it appeared, and what functions nuclear weapons were given in addition to deterring. Then we will observe how it evolved across geographic boundaries, how states adapted it to suit their needs. Finally, we will examine the efficiency of nuclear deterrence in international relations: does it work? How often? What are the criteria to see it operate?

Methodology

Studying the concept of nuclear deterrence means tracing back its origin to understand where it came from and how it managed to impose itself in international relations, and how it eventually survived the end of the Cold War, which had witnessed its birth. It is also necessary to explore its evolution and variants in every country that has adopted it. The

term ‘nuclear deterrence’ does not cover exactly the same thing in terms of aims, means, conditions of use, in each nuclear-weapon state. Furthermore, as it is a tool in strategy and defence studies, nuclear deterrence can be assessed against other existing tools designed to secure order and safety.

This treatise reflects a literature study and relied on various sources including
1. official documents
2. personal interviews with diplomats
3. books and articles written by pro-deterrence political experts and analysts
4. books and articles written by contra-deterrence political experts and analysts
5. journalists’ articles and research institutes.
Articles are taken from the Internet and from academic journals.

Moreover, as staff member of an NGO involved in nuclear disarmament, I have had the opportunity to discuss with ‘ordinary people’ to learn what they know and note the success of nuclear-weapon states’ political propaganda to justify the possession of nuclear weapons and hide the medical or technical consequences of such weapons and their legal implications.

1. Official documents
I could use primary sources in countries such as the US, France, the UK, India, China. However, the US is the most open country. For instance, a study by the US body STRATCOM, “Essentials of Post Cold War Deterrence” (1995) was declassified in 1996 thanks to the Freedom of Information Act.

2. Personal interviews with diplomats
I requested a personal interview with several countries: the US, France, India, Israel, Russia. Diplomats usually accept to give an interview. Israel was very suspicious and asked several personal questions. As for the US, it was too busy to receive me and asked me to e-mail my questions instead, which I did. After a couple of weeks and a number of reminders, I got the following response: " We do appreciate your extensive questions and were busy with the end of the conference and now with the follow-up to it. The demands on us do not allow us the time to respond to your questions, but we do refer you to our

public diplomacy materials." Which of course was pointless since most of my questions were pointing at the contradictions among their official statements and publications.

3. Books and articles written by pro-deterrence political experts and analysts

A prominent example in France is Pascal Boniface. He worked as technical adviser (1990-92) for Pierre Joxe's staff, then as Home Secretary and later Defence Minister, became General Secretary (1985-86) of the Groupe d'études et de recherches militaires et stratégiques (Germes, Strategy and Military Research and Studies Group), before becoming an expert on defence issues of the socialist (leftist) group at the National Assembly (1986-88). He eventually founded the French Institute of International Relations (IFRI). He defends the French nuclear doctrine in most of his writings and he is close to French decision makers. Thanks to him, we can understand the French nuclear doctrine of deterrence, since few official documents are available. Bruno Tertrais is also a defender of nuclear deterrence.

4. Books and articles written by anti-deterrence political experts and analysts

Usually very few politicians of nuclear-weapon states dare speak out their opposition. Michel Rocard, former Prime Minister, is an example in France. On the other hand, numerous research centres produce reports opposing nuclear deterrence. Among them, let us cite the FAS (Federations of American Scientists), the Oxford Research Centre, the Global Research Centre in Canada, the CDRPC (Documentation and Research Centre on Peace and Conflicts) in France, etc.

5. Journalists' articles and research institutes

These sources provide facts less ideologically marked. They are essential for countries where I could not get primary sources such as Pakistan, China, Russia and India.

It is relatively easy to obtain official documents and analyses about the US nuclear doctrine. The United-States is an open country with many researchers or think-tanks active in the field of nuclear deterrence.

It is not so in other countries. As Bruno Tertrais (2004 : 48) points out, "*Nuclear policy in France is shrouded in secrecy – even more so than in other Western nuclear weapon states – and transparency has long been anathema in Paris. Few public pronouncements or official documents are available*". That is why I relied on political analysts that I knew are close to governmental positions and would bring light to political leaders' view. The French

public is not interested at all in nuclear deterrence and believes what its successive governments have been telling it for 50 years: "Nuclear deterrence is good for you and you have no reason to worry since we have the minimum and it is not to be used anyway". And thus nobody cares about nuclear weapons.
What I know of France (because I have been living here for nearly 30 years) does not necessarily apply to other countries. Consequently, there is relatively little information about Pakistan, Russia, India and China, and all the more so, as I do not speak their official language. As for the UK, I managed to get official documents through the Internet, but diplomatic language is cautious and communicates what political leaders agree on 'letting go' to the public.
For all the countries where I could get no or few primary sources, this treatise relies on secondary sources and official statements that remain essentially problematic in setting out norms but being questionable due to possibly not being in accordance with public statements and the real practice of nuclear policy.

As for Israel, by denying its possession of nuclear weapons and due to an absence of information on its nuclear doctrine, this treatise does not take Israel into account.
There will be no mention either of countries which do not *actually* possess nuclear weapons despite their technological mastery and possession of nuclear material, such as Japan. These states have a de facto 'latency deterrence' or a 'virtual deterrence' power. However, we cannot affirm that 'latency deterrence' is formally part of their defence and security strategy. Similarly, North Korea withdrew from the NPT in 2003 and claims to have nuclear weapons but did not carry out a nuclear test to prove it. We will focus on *real* deterrence, therefore we will not consider them.

Because of this discrepancy in available documents, this study is distorted in that it emphasises the US vision of nuclear deterrence to the detriment of other countries. This side-effect is counter-balanced by the fact that the US has been the leader in nuclear deterrence: it is the one which introduced it in international relations, and the other countries have reacted to it. Few countries have an aggressive nuclear doctrine, made of first use policy, funding of research and development to deploy new (modernised) weapons, and a strong emphasis on them for their security. The US, the UK and France fulfil these criteria. The other nuclear-weapon states follow suit. The US in particular is

obsessed by nuclear (and conventional) superiority, it encourages the arms race and proliferation.

Besides, through my reading, I have eventually realised that all the analyses were biased in that they took the US point of view. Not that they supposed the US was the 'good guy' during the Cold War but they analysed the validity of nuclear deterrence in terms of the US or its allies' security ONLY. I had to read the work of Russian writers to obtain the Russian point of view. Both points of view were combined in game theories – by definition – and in the psychological approach. This latter was the only one which sought to provide security to ALL the parties, stating that security is indivisible and that one cannot be secure as long as its neighbour is not secure too. Psychology and conflict management literature were the only ones which take into account the other, not to find the best way to submit or control it as in political science, but to satisfy its core interest (namely security) so that it has no reason to attack.

Analyses other than in psychology and conflict management literature have a realist standpoint. I support this view as far as strength is the ultimate power. Even people not taken to using force, once they have tried all the other available options, are likely to become aggressive, at least verbally. But if one starts saying he only believes in strength, then the rest of the community will eventually rely on strength too, and life in the community will become impossible. Inter-state relations will return to the jungle. It is not a viable long-term approach. Although we must keep in mind that anyone may turn violent when desperate and/or because he does not know how to express his discontent differently, we need to learn rules in good neighbourliness and we must learn to live together and overcome disagreement without fighting each other.

Political science is also still focused on one's own original country. A US writer will research how to secure *his or her* country, an Indian will do the same for his or her country, and so on. The field of international relations and political science has not yet managed to adopt a comprehensive view of international order and security, as John Burton (1996) and all the analysts in conflict management advocate.

My desire to bring a game theory and psychological approach to this treatise does not originate from this observation. In my opinion, various approaches to a subject help to provide a comprehensive view of a topic. Game theory has been used to justify nuclear deterrence, therefore I wanted to understand how it did so. I realised that the

demonstration also advocated cooperation on both sides as providing the best outcome – a part forgotten by political leaders. And because nuclear deterrence is notably psychological – making the other believe the costs will outweigh any potential benefits, zero-sum thinking, believing enemies are irreconcilable – a psychological part was necessary to explain why some people accept and support nuclear deterrence. We will show that nuclear deterrence is not adapted to most conflictive situations, is cost-inefficient, and produces dangerous secondary effects. Alternatives coming from the field of conflict management and psychology are able to cope with most conflicts. And people must learn to live in a non-zero risk world[2].

Lastly, this study does not take into account the ethical aspect of the issue because political leaders prefer to consider themselves realists: the ethical issue does not interest them. For instance, Boniface is in favour of an anti-city strategy; and countries such as Russia or China say: if X is ready for it, so there is no reason why we would not do the same. I do not share the view that ethical arguments will find an echo among political leaders. As Joxe says, nuclear weapons like any other weapon are at the service of the reproduction of the dominating political system. It is not an ethical but only a political matter(1997: 102).

How can we define deterrence?

Deterrence can be a doctrine, a state of mind, a technique. Most of the time, deterrence is marginal, speculative. As a strategy, it is concerned with deliberate attempts to manipulate the behaviour of others through conditional threats (Freedman 6). Manipulating another's behaviours through threats is a natural phenomenon. “It is about setting boundaries for actions, establishing the risks associated with the crossing of those boundaries” Cimbala explains. For Schelling (1963: 9), deterrence is “a theory of the skilful non-use of military forces” in order to ‘induce inaction’, to oblige the opponent against his[3] will not to do something that he wants to do; A can also see what if anything B gets up to. It “depends on the assumption that the behaviour of potentially hostile others can be manipulated through issuing timely and appropriate threats” (Freedman 31). The challenge for strategic deterrence is to create internalised deterrence in its targets”, in other words mythical fears

[2] I mean we cannot live in a perfectly secure world. Even crossing the street is dangerous, but we learn to live with it and accept a certain level of risk. It should be the same in nuclear-weapons states. Their environment is not that dangerous and they must stop being paranoid.

[3] There is no sexism implied. The male gender is used merely for convenience.

to get from the victim the expected response without having to do very much (Freedman 32). Given that international relations are chaotic and threat perception generalised, “these activities dominate diplomatic activity and military provisions”. As war may occur, states dissuade an aggression by maintaining armed forces (Cimbala 21).

Since deterrence aims at obliging someone not to do what he wants to do, deterrence is coercion. Coercion is defined as “the potential or actual application of force to influence the action of a voluntary agent”. It involves “the purposive use of overt threats of force to influence another’s strategic choices”, while allowing the ability to “make critical choices throughout the course of a conflict”. Coercive strategies can be divided into the deterrent and the compellent. Deterrence is “dissuading from taking a proscribed action” (Wilkening & Watman, 1995: 8), whereas compellence is “stopping an ongoing activity or reversing an action” (Wilkening & Watman: 8). Compellence requires ‘making someone perform’ something against his will. Deterrence upholds a status quo and while deterrence compliance is a non-event, compellence compliance is blatant, and carries with it the reputational significance of humiliation. The main difference is time pressure: if the aim is for nothing to happen, the time horizon is infinite. Nevertheless, “every deterrence threat carries with it a secondary issue of compellence”. Once the threat fails, the role of deterrer and compeller are reversed (Freedman 112). From the nuclear point of view, it is better to deter than compel (it is difficult to reverse the resultant irradiation after a nuclear strike).

An alternative is "coercive diplomacy", as described by Alexander George (1971: 1-35): it is the “combined use of arms and diplomacy to induce the opponent to behave in a preferred way, but stopping short of actual war" (Cimbala 169). Force is threatened to make a political point, as in the 1st Gulf War. Under certain conditions, Alexander George and others believe it may be necessary to use a little force to deter the outbreak of a wider conflict. It is sometimes important to make a deterrent threat credible in words or military preparedness without an actual demonstration in battle. At this point, defence and deterrence may be commingled.

In a situation where A is afraid that B gets stronger, A thinks it is better to prevent B from winning over A with a preventive war (disarm B, change B's policy to remove the threat). This involves both control and prevention (Freedman 85): Control in that A denies B a type of decision; prevention in that A exploits existing strategic advantages by depriving B of the capability to pose a threat. It is anticipatory self-defence based on two facts: qualitative

evidence of imminence, and ability of its force (Freedman 94). Prevention is cold-blooded, it is about dealing with the problem before it becomes a crisis. By contrast, preemption is a controlling strategy to remove the enemy's capacity to control; it is a more desperate strategy, adopted in the heat of a crisis (Freedman 86).

Deterrence has several variations:

- **narrow deterrence** involves deterring a particular type of military operation within a war, whereas **broad deterrence** involves deterring all war (Freedman 32).
- **external versus central**: central means one deters attack on sovereign territory, homeland, vital interests; extended: cover allies. This issue arose because of overseas commitments and the necessity to be ready to launch a nuclear attack in response to a conventional attack against third parties. It was only the extension of American interests that created potential conflicts with other powers.
- **deterrence by denial and punishment**. Difference first elaborated by Glenn Snyder in 1958 (1961 too). Denial has coercive elements and denies the opponent strategic options “by convincing him he cannot accomplish his political or military objectives with the use of force, or that the probability of accomplishing his political or military objective at an acceptable cost is very low” (Wilkening & Watman, 1995: 9). Deterrence by denial usually threatens to destroy military forces, and is thus often referred to as ‘countermilitary deterrent strategy’ (Wilkening & Watman: 9). Though small nuclear arsenals are dismissed as regards utility for warfighting purposes, they can deter by denial of an intervention (Wilkening & Watman: 27). On the other hand, deterrence through punishment is pure coercion in that the opponent is not denied choice, but is given powerful incentives to choose in a particular way for instance “by threatening to destroy that which an opponent values highly” (Wilkening & Watman: 9) which is referred to as ‘countervalue deterrent strategy’. Denial is a more reliable strategy than punishment because it offers control rather than continuing coercion (Freedman 39). Before punishing B, Y must defeat its defending forces: more costly (resistance costs and compliance costs). With denial both costs are directly related: if resistance fails, compliance is automatic. Both strategies are pure types, actual strategies incorporate elements of both.
- “Denial was really about boosting conventional defences on NATO’s central front so that Warsaw Pact armies could not penetrate into Western Europe even if they wanted

to". The threat was credible, little risk of escalation, but undermined by the cost of building NATO's forces up to Warsaw Pact levels (Freedman 38). With punishment, one has to assume devastating attack on the homeland rather than a stalemate on some distant battlefield. Was only adopted by NATO because of the lack of confidence in denial. Was adopted when the US had nuclear superiority, but regreted because of the supreme risk US had to accept. In contrast, conventional battle in Europe would not threaten the superpower's homeland.

1 HISTORICAL BACKGROUND OF NUCLEAR DETERRENCE

1.1 Origins of nuclear deterrence

1.1.1 Before the 1945 bombing of Hiroshima and Nagasaki

The French scientists Pierre and Marie Curie discovered radioactivity at the beginning of the 20th century. During World War II, the scientists on the Allies' side left Europe for the American continent and brought with them the materials to build a nuclear bomb. They pursued their research first in Canada before moving to the United States.

Assisted by the UK and Canada, the United States launched the "Manhattan Project" because it was anxious to prepare the nuclear bomb before the Germans and win the war. A nuclear bomb indeed provides a decisive technical advantage. The aim was then not to deter but to "exploit the strategic advantage gained through the investment" in Freedman's words (12).

Yet the United States won the war without having to use nuclear weapons. Despite a debate still going on about the two bombs unleashed over Japan (Little Boy on Hiroshima and Fat Man on Nagasaki respectively on August 6 and 9, 1945), evidence tends to show that Japan had already tried to surrender but the United States had refused to accept their surrender on their condition – that the Emperor be reintained[4].

Military planners and political leaders had not yet realised the uniqueness of the atom bomb nor its consequences. Such bombs were considered just more powerful (Delmas, 1974: 11). They needed a real test to assess the bomb's power but also to weigh on the outcome of the war – in the Yalta negotiations – and show to the world that the United States was a key partner in international relations.

With this real test, political leaders and military planners became aware of the qualitative and quantitative change achieved by the atom bomb. Scientists realised its tremendous destructive power and some even asked for it not to be used and/or for international control (Oppenheimer's and Niels Bohr's ideas, Frank Report in 1944,…).

[4] Read for instance Peter J. Kuznick, "The Criminality of Nuclear Weapons: Apocalypse Then, Apocalypse Now". Peter J. Kuznick teaches history and directs the Nuclear Studies Institute at American University. See also the evidence given by Gar Alperovits, "Hiroshima Pourquoi?", Autrement (1995), pp. 132-146, and J. Samuel Walker, historian, "The Decision to use the Bomb: A Historiographical Update", in *Diplomatic History*, vol.4, n°1, winter 1990.

The human brain had to adjust to this technical discovery. “The splitting of the atom,” said Albert Einstein, “has changed everything except the way we think. Thus we drift toward unparalleled catastrophe. We shall require a substantially new manner of thinking if mankind is to survive.” The technological quantum leap, he said, must be accompanied by “another quantum leap in human relations, unless we learn to live in a new way towards one another, there will be a catastrophe”. With Bertrand Russell, he issued a manifesto in London on 9 July 1955 calling the human species to “learn to think in a new way. We have to learn to ask ourselves, not what steps can be taken to give military victory to whatever group we prefer, for there no longer are such steps; the question we have to ask ourselves is: what steps can be taken to prevent a military contest of which the issue must be disastrous to all parties?”

A second element can explain the sudden major role attributed to nuclear weapons. World War II led to the discovery of the importance of surprise in modern war: “the attacker could, with adequate surprise followed by sufficient military weight, place the defender in a hopeless position” Stephen Cimbala explains in his book *Military Persuasion. Deterrence and Provocation in Crisis and Wars* (1994: 8). Since "deterrence anticipated aggression and therefore guarded against being caught by surprise", nuclear weapons were given deterrence as second function in the absence of a specific theory, as Freedman points out (11).

1.1.2 From 1945 to 1949

It is worth stressing that at first people did not believe in the deterrent power of nuclear weapons: World War I was supposed to deter any other world wars but it obviously failed. On the contrary, there was a tendency in favour of disarmament (Rotblat, 1993: 41-57). Scientists working for the Manhattan Project had already tried to stop the use of the bomb and even diplomats attempted to do the same (Baruch Plan, 1946-1950). With their failures, people had to live with these new weapons endowed with a high potential of destruction. The best thing to do was then to *avoid* wars instead of *winning* them (Autrement, 163), since a nuclear war is unwinnable and would lead to the annihilation of all the parties (zero-sum game). Therefore the idea that wars might be avoided in the future was widespread although people did not really believe in it at the same time. Besides, avoiding wars leaves disputes unresolved. Deterrence got deeply rooted in the early 1950s and "for four decades deterrence dominated debate about grand strategy on both sides of the Iron Curtain, acquiring all the trappings of an orthodoxy" (Freedman: 10).

So, deterrence was the second function of nuclear weapons in 1945. With the Hiroshima and Nagasaki bombings in 1945, political leaders and military planners started thinking about integrating them in a strategy. They were influenced by the air power theorists of the 1920s and 1930s, who wondered whether the only way to prevent air raids on a massive scale was to demonstrate the capacity to retaliate in kind. This encouraged the view that only the prospect of retaliation in kind could act as any sort of restraint. Besides, with the great number of deaths during the World Wars, people were looking for a massive and instantaneous retaliation to prevent further massive deaths: only the atomic bomb could fulfil the mission (Canberra Commission, 1997: 10).
Poisoned gas had already set an example: countries desired to ban their use but they permitted the holding of the weapons. If one used them, the other would retaliate in kind in a lose-lose solution. A similar idea was applied to strategic bombings in the 1930s: so long as one side refrained from attacking cities, so would the other. This strategy meets its limits if the restraint comes from a lack of utility or ethical concerns (Freedman: 32, 33). In addition, the WWII experience revealed a more complex relationship between offence and defence, and in the post-war world that original formulation seemed to be more pertinent than ever (Freedman: 9-10).

Planning processes in 1947 and 1948 reflect the first serious efforts to incorporate nuclear weapons into war plans. Given the destructive power of an atomic explosion, planners considered only two options: either peace or total war i.e. nuclear war, a nuclear holocaust. It was total deterrence. But texts remained vague: “The earliest plans in 1947 and 1948 stipulated as their objectives the slowing down of a Soviet conventional offensive in Europe and the destruction of valued social and economic targets in the East European and Soviet rear”, according to Cimbala (74).

In fact, until 1949, the Truman administration was uncertain about how nuclear weapons would fit into the process of strategic policy formulation. Targeters under Truman and Eisenhower added the destruction of Soviet nuclear forces in an anti-bases strategy. To sum up, nuclear weapons would be used for missions of counterforce, societal destruction and retardation of advancing Soviet forces in Europe, known respectively as Bravo, Delta and Romeo. They were to support conventional forces, for sporadic use, rather than to be used as such. This can be easily explained by the fact that under Truman, the stock in the

US was so low (only 2 bombs in 1945) that they could not deliver a knockout to a country the size of the USSR by use of nuclear weapons alone.

1.1.3 From the 1950s onwards

During the first two decades after 1950 US strategy was dominated by the prospect of global war with the USSR, either resulting from a direct confrontation or growing out of tensions in Europe.

With the increase in nuclear stockpiles from the Eisenhower administration, military planners thought about a strategy for a general war, even if “the basic stability of deterrence, in the form of a two-sided capability for infliction of unacceptable retaliatory damage to society, was presumed by the US political leadership – even during the years of 'massive retaliation' – as declaratory policy” (Cimbala 75). This later stabilised in the mid-60s around retaliatory MAD strategy, and actual war plans included fighting traditional counterforce or counter-military campaigns (Cimbala 74). Since the MAD strategy assumed mutual destruction by definition, adopting this strategy must have left something to chance to be credible (Freedman: 16-17).

Meanwhile, the United States was qualitatively and quantitatively superior to the USSR: they mastered nuclear energy and the USSR had no delivery system able to reach American territory – Soviet planes could not reach the continent without being intercepted by US radars (Roberto, 1993). The US replaced its B-29 by the B-50 which could fly around the world non-stop with one in-flight refuelling, and had from 1951 B-36 bombers which could fly 16,000 km non-stop, enabling them to reach the Soviet bases from US bases. Meantime, until 1954, the Russians had the TU-4 Bull, built from 1946 by copying the B29 which had to land in Siberia after bombing Japan. They could fly about 5,000 km at a cruising speed of 350 km/h. Although they could fly to the US, the US radars would have detected them and the US planes, being quicker, would have intercepted them (Maiocchi, 1993). Consequently the United States had nothing to fear from the Soviet Union while being able to threaten it with massive retaliation. This became the basis of deterrence. Furthermore, Freedman stated that “[deterrence] was seen to be so benign in its effects that its supporters became ever more ambitious on its behalf” and it was quickly extended to allies (15).

But the USSR tested its first atom bomb in 1953. The Soviet-US parity disrupted this version of deterrence. It kept its value as a concept but its forms were altered. With a Soviet bomb, the US could perform its threat and bomb the Soviet Union but this time the Soviets would have retaliated, destroying the USA. This latter would have then sent another bomb against the USSR to destroy it too: this is counter-retaliation. Both players would be destroyed: this is mutual assured destruction, M.A.D. This double certainty – capacity of retaliation and counter-retaliation – constitutes the balance of terror, the "mutual neutralisation of the two players who own means of massive destruction virtually equivalent" as the historian Claude Delmas put it (1974: 7). Up into the 1950s, the US opted for developing a capacity to answer any surprise attack massively and quickly, while at the same time holding a declaratory policy of flexible response and limited options (Cimbala: 99). This shifted expectations from avoidance of a war to the first decisive military strike in war.

Generally speaking, the fear of resorting to nuclear weapons dominated every period of international strain. These weapons appeared both as the solution to avoid wars and remain in "peace" – in as much as peace is the opposite of war – and as a major danger since they could cause the destruction of the two superpowers let alone the potential fallout over neighbouring countries. Given this prospect, their use appeared increasingly unlikely because it was increasingly irrational. One question naturally arose: how to use them to have the most credible hence efficient deterrent effect?

1.2 Most efficient strike to deter

There are basically two kinds of nuclear strike: massive, independent of the attacker's strike, or flexible, proportionate to the attack. Both options were explored and the choice made by political leaders and military planners evolved across time.

1.2.1 Massive

The first choice was massive retaliation. As mentioned previously, the United States enjoyed a position of monopoly for eight years before the Soviet Union tested its first atom bomb. During that time, it was possible and easy for the US to threaten a massive nuclear strike against anyone who would challenge it since it had nothing to fear. The Secretary of State John Foster Dulles is famous for supporting "massive retaliation" in the brinkmanship game. He said in a speech on 12 January 1954 that President Eisenhower and the

National Security Council had decided "to depend primarily upon a great capacity to retaliate instantly, by means and at places of our own choosing." The storm he aroused obliged him to explain later that of course the punishment must always suit the crime and that he was not talking about indiscriminate bombing of Moscow.

However, this choice of massive retaliation left the door open for a Soviet invasion of Europe. Indeed Europe was easily reachable for the USSR and its conventional army was superior to the Europeans'. The Soviet Union did not need to resort to nuclear weapons to attack Western Europe. Faced with conventional weapons, threatening a nuclear strike was not credible, it would have been a first use of nuclear weapons and would have violated the war rule of proportionality. Instead of being viewed as a defensive act, it would have been considered as an aggression.

Moreover, there is clearly no positive political outcome to expect from a nuclear strike except in the very first blow since it leads to total destruction, and to a common suicide if it happens among nuclear states. Raymond Aron (1905-1983) wrote in 1961 that Dulles's massive retaliation was a doctrine "never enforced: it was morally and politically impossible, even if it was materially possible".

Military planners took the opportunity of the Korean war in the 1950s to suggest the use of nuclear weapons. It would have asserted the American superiority. But the idea emerged and was later accepted that an all-out war was unwinnable, and that it was impossible to pursue all-out objectives. The Korean experience highlighted the notion of nuclear threshold and nuclearisation of a conflict, etched in the very logic of escalation: although "technically, the threshold would have been crossed, psychologically it was considered as not being able to be crossed" (Delmas: 19). He defines the nuclear threshold as the geometrical point of political, psychological and technical considerations where resorting to nuclear weapons would bring more risks than advantages compared with what is at stake in the aggression (19). It also underscored that we need to remain below the atomic threshold, i.e. make massive retaliation unfeasible.
On the other hand, a limited use of nuclear weapons could be envisaged provided it was proportionate to limited political objectives. To put it differently, so-called 'small' or 'tactical' nuclear forces could be employed to make up for deficiencies in conventional firepower and bolster action in graduated steps, steadily increasing the pressure on the enemy to cease his aggression.

The French scholar Raymond Aron reacted to this event in the following terms: “Nuclear weapons, above all from the day when both sides have them, are destined to prevent war. But can we prevent limited aggression by threatening incommensurate retaliation? Shouldn't we proportionate the threat to the aggression, hence conceive degrees in threat? … Graduation is of less interest to the threat than is retaliation. It is less the *deterrent*[*] we should proportionate than the measures to take in case the foe would not have been stopped in its enterprise by threat” (1957: 309). Proportionate deterrence was then substituted for total deterrence in strategy plans.

1.2.2 Flexible

From early on, people agreed that a war between the two superpowers could happen excluding the use of nuclear weapons. That was a breach of the either/or approach, a war that was not total could be possible. This was an ideal breeding ground for ideas advocating a limited use of nuclear weapons to achieve limited political objectives. According to Stephen Cimbala, a limited war is a war limited in scope and destructiveness consistent with leaders' political objectives (15).

This idea that emerged from the Korean experience was strongly supported by Kissinger. In his opinion, tactical nuclear weapons could make up for deficiencies in conventional firepower, particularly with US numerical inferiority to the USSR, and could steadily increase the pressure and threaten the USSR with a risk of total war. He held as principle that a war can remain limited even with nuclear weapons (Delmas: 28). He also supported the view that tactical nuclear weapons can be distinguished from strategic nuclear weapons, the former being used in limited war (scope and extent limited) while the use of the latter meant crossing the threshold and waging a total war. Later however, he concluded that it was better to separate limited and total war, with nuclear weapons as the only border everyone understood (Delmas: 29).

Another element that indicates a preference for flexible response is the plan as early as in the 1950s to miniaturise nuclear weapons in order to make them more “usable” weapons and to make a more credible threat (Delmas: 21-). Indeed, massive hence indiscriminate

[*] In English in the text.

killings are not credible, while more focused strikes – today called surgical strikes – appear less dangerous and more acceptable.

While being very powerful, tactical weapons are more flexible and more diversified and can integrate a strategy of massive retaliation of 1st or 2nd strike: this strategy is called graduated retaliation (Maiocchi: 87). The first phase of a conflict would be fought with conventional weapons. The second will see the use of tactical nuclear weapons on precise military targets. The third phase is escalation; nuclear weapons of great power are used against military and civilian objectives hoping the adversary will stop before a planetary holocaust. The use of conventional weapons is reconsidered, and nuclear weapons are not aimed only at dissuading. McNamara, former President of Ford and US Secretary of Defence from 1961 to 1968, is the main architect of this strategy.

Readers should note at this stage that the US and the USSR have had low-yield weapons for a long time, but they are no longer deployed. In 2005, the US Congress refused to refund the Advanced Concepts Initiative (ACI) programme which sought to come up with radical new warhead designs for tasks such as the destruction of chemical or biological agents in storage. These would very likely have been mini-nukes or even micro-nukes (Burrough, 2006). France is also doing research on low-yield weapons through studying fusion at the Barp Laboratory, while claiming it opposes battlefield nuclear weapons and it is dissuading the United States from doing so[5].

Nevertheless, a flexible nuclear doctrine has two flaws. First, with a continuum in the range of nuclear weapons from bullet to thermonuclear bomb, the risk of escalation increases since there is no longer any threshold (Delmas: 68). And if the apocalypse factor is suppressed, only the psychological factor remains to prevent the use of atom bombs. Every conflict can turn nuclear because of a strong temptation to use nuclear weapons in order not to lose the war. With parity and continuum, some believed conventional conflicts had become impossible while for others, the risk of such conflicts has increased. The prevailing belief that prevailed was either there would be a nuclear (total) war, or a conventional (limited) one (Delmas: 27).

[5] Personal interviews with French diplomats, May 2005 and May 2004 (Ambassadeur François Rivasseau, his deputy Jean-Michel Despax).

The second flaw involves the question of whether limited war is feasible. This was MacNamara's unresolved dilemma. A politically acceptable way to fight a nuclear war might make it more probable. The US and USSR doubted waging a limited war was possible, and Europe disliked the idea – it would have served as battlefield. But MacNamara supported it, stating it was a better deterrent than the massive theory because massive meant indiscriminate. It is however hazardous to control escalation in a limited war. And it can be perceived as provocative, as an act of aggression (Cimbala: 83).

1.2.3 Core issues unveiled

These theories about flexible response, massive retaliation and limited wars are based on assumptions that are not always apparent to their authors and followers. The flexible approach for instance depends on the assumption that "there are **distinct stages** in war which could be **well understood** and which would mean that the threat to move from one stage to the other would serve as a powerful deterrent, and that (…) forms of compromise and bargaining would still be possible" (Freedman: 33, my bold) despite the horror of consequences. But this does not hold because "we would be crossing a threshold" anyway, as former US Secretary of State Colin Powell admitted in 1995. Admiral of the Fleet Earl Mountbatten put under question as early as 1979 the distinction according to nuclear payloads: "I have never been able to accept the reasons for the belief that any class of nuclear weapons can be categorised in terms of their tactical or strategic purposes" (quoted by Green, 2001: 7). Therefore the limits between stages would be difficult to observe and thus respect, and belligerents would find themselves engaged in an all-out war through escalation.

So it seemed wiser to fight limited wars with conventional weapons and leave to nuclear weapons the sole but crucial strategic role of deterring nuclear use by the other side (Freedman 34), which is the solution adopted by the French. But the claim was that it was the disproportionate nature of nuclear war that would deter potential enemies from aggressing in the first place. It is indeed often assumed that the objective of deterrence is "to discourage all forms of warfare, and in particular aggression across recognized international boundaries" and vital interests "rather than a particular type of warfare". How to reconcile both views? Threatening nuclear retaliation in case of non-nuclear attack to discourage all forms of warfare may well encourage a nuclear strike, Freedman warns (35). The most likely non-nuclear event to be deterred would be an attack on an ally.

To summarise, one question obsessed the West during the Cold War: “whether the United States was prepared to risk a nuclear catastrophe should Warsaw Pact armies break through NATO’s defences and threaten to overwhelm its allies and gain control of all of Europe” Freedman writes (34, 35). The deterrence of Europe and the US required different weapons: nuclear and thermonuclear weapons to deter a nuclear aggression; big non-nuclear elements – but able to have nuclear tactical weapons – to deter a non-nuclear aggression or to wage and win a limited war; very mobile intervention forces to intervene in local conflicts with or without nuclear tactical weapons; and lastly troops able to cope with guerrillas and subversion. It is not as was previously assumed – any kind of weapon for any kind of objective, and nuclear weapons as key weapons for every situation. A diversity of weapons is necessary to cope with every situation. Because of this diversity, the idea of 'deterrence’ becomes more and more equivocal (Delmas: 30).

1.3 Evolution of the theory with technical evolution

1.3.1 Reminder

Just after WWII, the United States was both qualitatively and quantitatively superior to the Soviet Union since the USSR could not retaliate in the absence of atom bombs and had an interceptable delivery system. The USSR had indeed chosen not to develop planes able to compete with the Americans in order to work instead immediately on spacecraft (Delmas: 24).

1.3.2 Sputnik

The result was equal to the efforts: Sputnik was launched in 1957, putting the USSR at the first rank in the spatial crusade. With Sputnik, the Soviet Union demonstrated it could reach US territory without being intercepted. This spacecraft brought about a balance in force, a balance in terror. But as G Wald, winner of the Nobel Prize for medicine in 1967, said: "*Nuclear weapons bring us nothing but balance of terror, and terror, even in balance, is still terror*". One must therefore dissuade a first strike, and avoid a war. There is no longer any possibility to win it, no decisive first blow since both the US and the USSR can destroy each other.

1.3.3 ICBM

Intercontinental Ballistic Missiles (ICBM) changed the rules. Before, missiles were delivered with bombers. Since bombers carry the most diverse arsenal of nuclear weapons, one cannot retaliate before knowing what the plane is carrying. To simplify, one needs to see first (i.e. get bombed) to react appropriately.

This means:

1. It is impossible to both maintain a counterforce to be able to retaliate despite the attack, and remain credible in one's deterrence, since this counterforce can get precisely bombed.
2. It favours the aggressor since the attacked gets the bomb anyway (at least in theory).

The ICBM modified this picture along the following lines. First one ICBM equipped with a nuclear warhead causes a huge destruction in a short time. “The short flight times of ballistic missiles meant that the normal decision-making processes by which states opted for war or for peace were in many scenarios irrelevant” Cimbala notes (84). Political leaders had to rely on pre-planned strike packages which offered little flexibility.

Second, one can retaliate without having to be bombed first since one knows from early on what kind of bomb it is. This time the defender is favoured, there is no inducement to strike first. During the Kennedy and Johnson administrations, US military planners assumed enough ICBMs could ride out any Soviet first strike and then retaliate, ensuring an assured destruction mission. The balance was still there, guaranteeing the right functioning of deterrence.

1.3.4 Before anti-ballistic missiles

Since a sole nuclear weapon devastates more than many conventional weapons, countries did not focus on a defensive system that would be too difficult to develop to be effective but on improving the invulnerability of the offensive means allocated to retaliation. The best thing of all was of course to avoid a war – or to strike first if war seemed unavoidable, especially in the US tradition. The best way to do so was to discourage a potential aggressor, and the best way to do that was to convince the aggressor that whatever it does, its victim will remain able to retaliate. Consequently bombers’ bases were made invulnerable, and later on countries relied on Sea-Launched Ballistic Missiles (SLBM) for submarines cannot be located.

“Therefore, the deterrence policy no longer dealt with accepting a conflict but to prevent it by threatening the aggressor with retaliations that would exceed in destruction the benefit

it could gain from resorting to force" Delmas writes (15). Countries relied on technical value (potential of destruction) and plausibility of their use (stake, willingness to survive,…).
Deterrence relies on mutual vulnerability. The one who in the first strike removes from the other any retaliation is invulnerable.

1.3.5 With anti-ballistic missiles

As described above, all the strategy was based on the assumption that the aggressor could not avoid retaliation, which prevented an attack in the first place. With a defensive system, the other's missiles could not reach him. The Soviet Marshal Talensky noted accurately in November 1966 that "The creation of an efficient system of anti-ballistic missiles makes the state have its defences depend mainly on its own capacities and not only on mutual deterrence, i.e. the other camp's good will" (Delmas 37). If the state's security is independent, it feels more secure. But on the other hand, the balance is broken. This causes an inversion in the psychological climate of the strategic balance because there is no longer the notion of primacy**.** Deterrence is secured no longer for the state which is deprived of an anti-ballistic defense (Delmas 63) since it gets bombed without guaranteeing damage to the aggressor.

As Marshal Talensky reminded us in January 1965, an appropriate defensive system must always match any offensive system (Delmas 34). The problem with this game is that it is expensive. Each dollar the USSR spent for its protection neutralised the $4 spent by the US for its defensive network: the USSR increases its offensive potential as the USA improves its defensive means, but the USA spends more money. McNamara noted that "The Soviets have the technical and financial ability to compensate for any measure we could take to limit the damage that would be inflicted on us… We will in all likelihood succeed in greatly increasing the Soviets' and our military spending without strengthening in any way our respective security" (quoted by Delmas: 38). Both countries, in order not to be in a position of inferiority, deployed a network of antiballistic missiles.

One solution to an anti-missile defense is multiple warhead missiles (MIRV). They were developed in the 1970s/1980s and benefited from improved accuracy. For the equation 1 missile = 1 warhead is substituted 1 missile = 5 warheads. Hence the attacker is favoured in the balance of forces since 10 missiles with 5 warheads destroy 50 targets which could have destroyed 50 x 5 = 250 targets in the aggressor. In addition, we can hope that the

foe's surviving missiles will be destroyed by our anti-ballistic missile system (Delmas: 70). In other words, MIRV provides an aggression bonus in respect of the first strike.

Another solution is to ban anti-ballistic missiles and return to former conditions of deterrence. The US thought about this in 1967. This explains why the United States and the Soviet Union negotiated a treaty to ban anti-ballistic missiles (ABM Treaty signed in 1972) and a treaty to ban nuclear tests (1957). The ABM Treaty's logic was to preserve the balance of mutually assured destruction between the superpowers – it limited Soviet and US anti-missile defense systems to just one station of 100 anti-missile rockets so that neither side would be able to attack the other and expect to survive an answering attack. Other treaties followed to ban or limit some weaponry (e.g. SALT in 1969-1972).

1.3.6 The Second Nuclear Age

The two superpowers were united by nuclear logic, which superseded ideology and classical strength rivalry, as Moscow recognised in this comment: "States with different social regimes, great powers whose divergences more than once very nearly plunged the world into war, managed to find a mutually acceptable solution to one of the main world issues [proliferation]" (quoted by Delmas: 49). Both countries do not renounce their ideology nor objectives but they are united in rejecting total war: they are "Partner-adversaries" in Raymond Aron's words. The absence of reaction during the Hungarian uprising (1956) made it clear for Delmas that the "strongest alliance among all is the one among the two superpowers" (51). This time announced the end of the post-war period and the second nuclear age (9).

The second nuclear age is known as pacific coexistence, which is not the same as the end of the war. The balance was fragile as the Cuban crisis reminded us in 1962. After that event, the superpowers set up direct liaison (the red phone) on June 20, 1963 to avoid a war arising from misunderstanding. Agreements followed on the pacific use of nuclear energy (May 21, 1963), to ban nuclear tests (July, 25 1963), and eventually the Non-Proliferation Treaty (NPT) in 1968.

As we have seen, each technical change brings about an arms race and modifies the data of deterrence and the balance. For a massive retaliation doctrine permitted by an unrivalled United States is substituted a concern of common suicide with reciprocated

deterrence known as the MAD doctrine. Both superpowers focus then on increasing their hardware's invulnerability while not breaking the balance of deterrence, i.e. while remaining somehow vulnerable. If the two superpowers want to fight, they have to avoid direct confrontation and fight on a third country's territory and remain below the nuclear threshold. The balance of terror makes total war unlikely but limited conflicts more likely (Delmas: 26). The concept of deterrence is softened. Indeed being invulnerable would enable a state to threaten everyone without fearing retaliation, which would have broken the international balance. Deterrence would no longer deal with "preventing a (nuclear) war from bursting out" but with "preventing an aggression" against the country which enjoys invulnerability.

1.4 Deterrence in European countries

1.4.1 Post-war situation

Remember that after WWII, Europe was ruined, without effective armies – or in a shambles – without money to fund a good one in the short term. Moreover, after the Soviets swallowed Eastern Europe, the West feared a Soviet invasion, especially as Western Europe was a more accessible battlefield than the American continent. The sense of urgency drove them to take the easiest and cheapest solution – relying on the US's nuclear weapons instead of losing time building a strong conventional army. Deterrence was extended to Europe for political and economic reasons, not strategic reasons for it would not have been necessary if Soviet forces had been correctly assessed, as some Kennedy administration defence experts argued (Cimbala 259), an assertion confirmed by the Canberra Commission (1997: 118).

1.4.2 From 1957, once the USSR could reach the US

As long as the US was technically superior to the USSR, the US could save Paris since New York was out of reach. The US protection was reliable. Once New York was reachable, Paris was no longer protected, especially since Europe is not vital for the US. As De Gaulle said, "I cannot rely on an American President to use nuclear fire-power, which is our ultimate guarantee in the face of the Soviet armament level, to defend anything other than its own people and its own territory" (quoted by Rocard, 1998: 24). France requested its own deterrent i.e. its own nuclear weapons. "It is not necessary that the power of retaliation be equivalent in volume and quality to the power that the aggressor has", notes the French General Stehlin. "Suffice it to be able to realise in him whatever his

protection, his defence, and the effect of surprise he may have, a quantity of destruction reaching his level of saturation" (quoted by Delmas 17). Before, the strongest could destroy his victim and his losses were minimal. But today, the victim is still able to inflict costs outweighing his aggressor's acceptable level, according to General Gallois. The advantage belongs to the one who strikes second (1960: 84).

A logical element also has weight in favour of proper deterrence. As then France's President De Gaulle expressed, the only way to avoid a nuclear bombing is to threaten with an equivalent level of destruction i.e. *nuclear* retaliation. The UK developed the same idea in its April 1957 White Book. "We must frankly recognise that today there is no means to protect the English people from an attack with nuclear weapons and from its consequences." There will still be enough bombers to cross the defensive lines and strike the homeland. It therefore bases the island's security on the threat of nuclear retaliation. "Given that peace depends to a large extent on the deterrent fear of nuclear retaliation, it is essential not to let a potential aggressor think he could annihilate bombers' bases in the UK before they can take off… It is then clearer than ever that the essential principle of any military plan must be to prevent war instead of preparing for it." (*in* Delmas: 13)

The game played by two players – the US and the USSR – is stable. It is no longer so with three players. The imbalance is demonstrated by Claude Delmas (55-58) inspired by a presentation at the French Institute of Strategic Studies in May 14, 1965 during a strategic conference at Paris.

Both superpowers want to remain the sole nuclear-weapon states. The US rejected the European desire to go nuclear, and united with the USSR to ban nuclear tests in 1957 in order to curb the European desire for nuclear independence. This union was criticised by China in the *People's Daily* in August 3, 1957 as "the Soviet-American alliance against China" (Delmas: 49). Again, the nuclear logic supersedes ideologies. It is better to get on well with "the other" rather than satisfying allies who may disturb the established balance between the two superpowers (Delmas: 61). To restrain any candidacy to the nuclear club, the superpowers drafted the Non Proliferation Treaty in 1968. This treaty is three-fold: countries promise not to go nuclear (Art. I, II, III), those who already are so promise to disarm (Art. VI), but promise also to teach the others the peaceful uses of nuclear energy (Art. IV).

Meanwhile, the European countries need to be reassured about their security. As a compromise, the United States proposes to “lend” nuclear weapons secured by the double-key. This means the Europeans could not use them without US approval. The UK accepts the offer and receives the Polaris system, but the decision to launch them belongs exclusively to the US. France refuses on the ground that only the nuclear States (US and UK) take the decisions, the others are just consulted. By having its own bomb, France has more reliable security and an independent place in international relations (Maiocchi: 93). Today 480 US nuclear weapons are stationed in six European countries under NATO nuclear sharing agreements (UK, Belgium, the Netherlands, Germany, Italy and Turkey).

For Delmas, “It is the refusal of subordination by the protected states and not the weakening of the protection offered by protecting states that affects alliances in the nuclear age" (59). The superpowers are willing to accept risks to defend external interests but not to follow their allies' initiatives: the monopoly of operational command and the unity of the coalition are maintained but allies partly alienate their independence. It is the first time that an Alliance gets this unbalanced shape (Maiocchi, 1993).

1.4.3 NATO

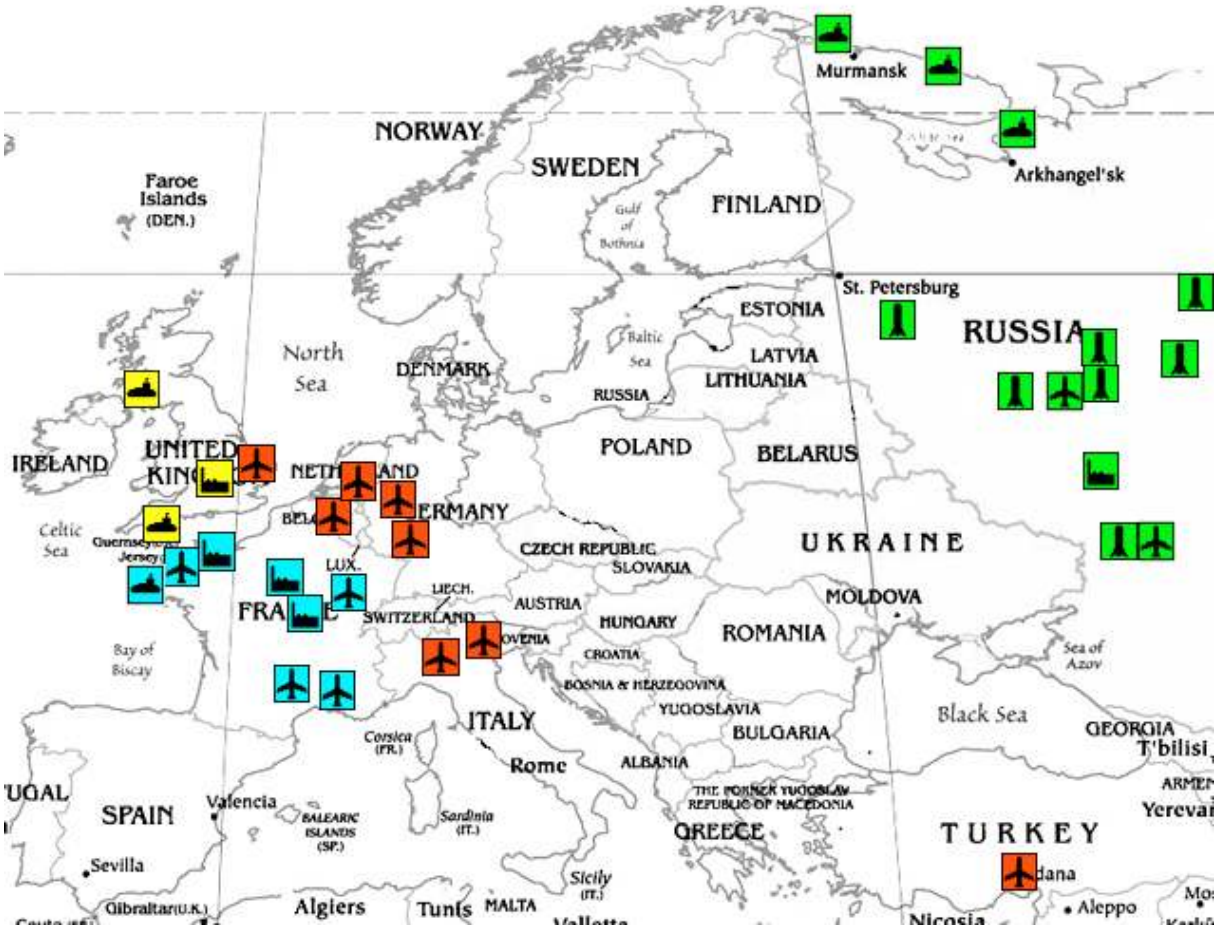
The North Atlantic Treaty Organisation (NATO) is an international organisation for defence collaboration established in 1949. Canada, the United-States and European member states promise to help each other should one become the victim of aggression. It was obviously designed to protect Western Europe from Soviet aggression. Its original nuclear strategy was to face the conventional superiority of the Warsaw Pact.

Given the situation from the 1950s to the 1980s, the US had to examine options between blowing up the world and capitulating to Soviet wartime demands. Indeed, in the event of a conventional attack against Europe followed by a first nuclear strike, the US and the USSR would be blown up but not Europe which would have only suffered from a conventional attack. The first option was massive retaliation. But total retaliation against a limited aggression is not credible because it is irrational. In addition, once there is no longer US nuclear superiority over the USSR, threats must be proportionate to be credible. And both superpowers are united by a common interest which in a moment of crisis supersedes alliances' solidarity. “In actual fact, NATO’s real military strategy, once the Soviet Union acquired enough strategic nuclear weapons to destroy North America, was a strategy of

temporary resistance to any aggression by conventional forces, followed by a demonstrative first use which, it was hoped, would persuade the Soviet leadership to call off the attack" (Cimbala 215). This "flexible response" – the US doctrine – became NATO official strategy in 1967 to leave ambiguous the conditions under which first use might occur. The Europeans would have preferred massive retaliation not to suffer a third war on their soil, but they hoped that the Soviets would largely disbelieve NATO's incremental nuclear escalation and be dissuaded from attacking even conventionally (Cimbala: 82).

But Cimbala stresses the "flexible response, in the judgement of many European politicians and planners during the 1960s and the 1970s, meant the surrender of Europe to save North America. US leaders saw flexible response as providing for a delay of nuclear first use and, subsequently, for a graduated set of responses that would postpone as long as possible the awful moment of decision for or against strategic nuclear war" (215). This ambiguous position was dissatisfying for NATO members and gave birth to a crisis of NATO and the French withdrawal in 1958.
On the other side, Cimbala explains, "Soviet leaders, to judge from their declaratory doctrine and force posture from the mid-1960s to the mid-1980s, would have fought an agreed battle with conventional forces, provided those forces were accomplishing wartime missions without nuclear escalation. However, Soviet leaders acknowledged that NATO's doctrine of nuclear first use made it unlikely that such an agreed battle without nuclear escalation (and also sparing the Soviet homeland from direct attack) could be fought in Europe" (215).

With the Soviet collapse, it was difficult for NATO to identify anything other than a marginal role for nuclear threats, both received and delivered. "If there was still a requirement for deterrence, it was for something specific to a particular crisis and a particular capability (such as chemical weapons) at a particular time", Freedman concludes (75).



British Nuclear Research /Factory	
Nuclear Submarine Base	
ICBM Base	
Nuclear Airbase	

Russian Nuclear Weapons	
US Tactical Nuclear Weapons	
French Nuclear Weapons	
British Nuclear Weapons	

Map 1: Nuclear Weapons in Europe

Sources: Abolition 2000 Europe
http://www.abolition2000europe.org/map/text.htm
http://www.abolition2000europe.org/map/map.htm

2 EVOLUTION OF THE CONCEPT AMONG NUCLEAR STATES

The threat has evolved, especially since the end of the Cold War in 1989, and countries which today opt for nuclear deterrence do not do so for the same reasons. It is worth seeing how each state contemplates nuclear deterrence, how it justifies it and how it has adapted it to the post-Cold War world in order to make an analysis of the evolution of the concept.

2.1 Vision of nuclear deterrence for the USA

2.1.1 In the Cold War period

Nuclear deterrence originated from a fear of the Soviets. The US built its deterrence then in response to a Soviet invasion of Europe or to a Soviet nuclear threat against its own territory. But in reaction, the USSR used subversion, invasion by third countries, etc. to avoid a direct confrontation with the US.

There was *in reality* no reason to fear a Soviet strike. The Soviet Union did not have the means to make it (Canberra, 1997: 118) and the archives have revealed no such plan as the researcher Lunak has shown (2001). The Soviets did not have the intention to attack the US nor Europe. What was previously interpreted as plans to invade Western Europe in the 1950s turned out to be plans to defend the East against an invasion from the West (Lunak, 2001).

In the 1950s Western states encouraged the view that they were ready to contemplate a nuclear war. In fact by that time they already supposed Moscow was unlikely to risk total war. But such a massive threat was trusted as being sufficient to prevent an attack. Therefore as long as the strategy was deterrence, nuclear weapons seemed appropriate since they were not to be used – an actual use of nuclear weapons would have been a catastrophe.

The US hesitated between total and proportionate deterrence. We have already seen that Kissinger, Secretary of State of the United States from 1973 to 1977, changed his mind, but John Foster Dulles also illustrates this hesitation. The US rejected the option of tactical nuclear weapons for they would not make up for the numerical inferiority of US troops compared with Soviet troops; besides, they had the same weaponry. So how would the US guarantee its security? For Kissinger, “It cannot but be found in increasing non-nuclear means" (in Delmas: 28). Which argues in favour of a combination of conventional and strategic nuclear weapons to deter any aggression. We should have available a full range

of responses – conventional weapons, special operations forces, and nuclear weapons, so that we can decide which to use based on the circumstances", to quote the "Essentials of Post-Cold War Deterrence" (1995), an unclassified document.

Deterrence was extended to allies through centralised command and control, leaving all the decisions up to the US. The US was willing to take risks to defend interests external to its territory, but it refused to get involved in a conflict because of its allies' initiatives and be partially destroyed. Since the credibility of the alliance is at stake, the solution was to enjoy the monopoly of the operational command. The coalition remained united but sovereign states sacrificed a part of their independence (Delmas: 59). Multilateral deterrence was an impossibility (Freedman: 76).

Generally speaking, the US believes its security is best guaranteed if it is the strongest. "Violence, i.e. physical violence – for there is no moral violence outside concepts of state and law – is therefore the means, the end is to impose our will", Delmas highlights (123). William Poundstone offers much evidence of this strong desire in the US after World War II to impose a world government (2003: 45-48) or wage a preventive war against the Soviet Union (105-110). Many people in the US believed their country had to take advantage of its technical supremacy to destroy the Soviet Union in a preventive war and secure 'peace' – in the Orwellian view of making war to make peace.

2.1.2 In the post-Cold War period

New situation

With the end of the Cold War, the 40-year security problem evaporated, and with it general or immediate deterrence, and the Eastern threat in Europe. In order to fill the vacuum, in 2000, Donald Rumsfeld, before he became George W. Bush's hawkish Secretary of Defence, argued that the United States should urgently develop a system to defend itself against a rogue nuclear attack (Owen Matthews, 2006). The 9/11 attacks on New York City brought support to the new existing threat.

New strategy

In 2002 the US Congress approved the Nuclear Posture Review (NPR). The new enemies now became rogue states, third world countries and regional leaders – an enemy can belong to all three categories. Although vital interests are barely regional, if a regional power has WMD, it can give ideas to others. That is why the US must deter everyone,

regional leaders included (Wilkening & Watman, 1995: 1-4). Vis-à-vis third world countries, the US uses deterrence “fort au faible”, from the strong to the weak. Generally speaking, the STRATCOM’s study "Essentials of Post-Cold War Deterrence"[6] emphasises a value-based deterrence, holding at risk those assets that mean most to an opponent.

The weapons to achieve this mission are the New Triad, consisting of nuclear and precision non-nuclear strike forces (offensive strike systems); passive and active defences; and a revitalised defence infrastructure. The foreword to the classified Nuclear Posture Review Report that was submitted to Congress on December 31, 2001 reads: “The establishment of this New Triad can both reduce our dependence on nuclear weapons and improve our ability to deter attack in the face of proliferating WMD capabilities”. This combination provides “US leaders with a broader range of strike options to address immediate contingencies ... ensure optimal targeting, minimal collateral damage and reduce the probability of escalation” (XI Executive Summary, Doctrine for Joint Nuclear Operations, 15 March 2005). Moreover, in most cases, the document foresees, the combination of nuclear and conventional weapons will enable the US to coerce war termination from the opponent, given that the end of nuclear combat actions will not necessarily mean the end of all aspects of conventional warfare.

That same year, former Undersecretary of Defence Paul Wolfowitz presented and received acceptance of a new and fundamentally radical strategy for defending the United-States. The document, entitled “National Security Strategy of the United States of America” (2002), is still, at the time of writing, the country's guiding strategic military document.

With the “National Strategy to Combat Weapons of Mass Destruction” (2002), Wolfowitz’s document sets out the Bush Administration policy of preventive war against countries or groups possessing weapons of mass destruction, and a broad role for nuclear weapons as a response to a variety of threats beyond deterring nuclear attack.

> "We must adapt the concept of imminent threat to the capabilities and objectives of today’s adversaries. Rogue states and terrorists do not seek to attack us using conventional means. They know such attacks would fail. Instead, they rely on

[6] Available at http://nautilus.org/archives/nukestrat/USA/Advisory/essentials95.PDF. After this study and some of the SAG minutes were referenced in the publications "Targets of Opportunity" (Bulletin of the Atomic Scientists, 1997) and "Nuclear Futures: Proliferation of Weapons of Mass Destruction and US Nuclear Strategy" (BASIC, March 1998), STRATCOM's FOIA office announced that formal minutes of SAG meetings would no longer be produced. Coinciding with this, the National Security Council told the Associated Press that the SAG study did not represent official US policy.

> acts of terror and, potentially, the use of weapons of mass destruction — weapons that can be easily concealed, delivered covertly, and used without warning. The targets of these attacks are our military forces and our civilian population, in direct violation of one of the principal norms of the law of warfare. As was demonstrated by the losses on September 11, 2001, mass civilian casualties is the specific objective of terrorists and these losses would be exponentially more severe if terrorists acquired and used weapons of mass destruction. The United States has long maintained the option of pre-emptive actions to counter a sufficient threat to our national security. The greater the threat, the greater is the risk of inaction—and the more compelling the case for taking anticipatory action to defend ourselves, even if uncertainty remains as to the time and place of the enemy's attack. To forestall or prevent such hostile acts by our adversaries, the United States will, if necessary, act pre-emptively." (National Security Strategy, page 15[7])

However, "The US does not make any positive statements defining the circumstances under which it would use nuclear weapons". It wants to be ambiguous because "This calculated ambiguity helps reinforce deterrence" (commander's overview, Doctrine for Joint Nuclear Operations, 15 March 2005). From the document, we can still learn that the conditions are related to how the US is attacked, and not just to the vital interests, as in France.

Pre-emption is in the US tradition, if we believe Cimbala: if war is unavoidable, it is better to strike a good blow first (98), though this behaviour encourages concealment and defensive preparations in adversaries. From the nuclear draft doctrine transpires the subtle belief that nuclear deterrence will fail sooner or later so the US must be ready to strike, even pre-emptively (Christens, 2005).

George W. Bush, in a speech at the White House on March 16, 2006, based his argumentation on this tradition to support pre-emptive strategy. The US is no longer protected by "two oceans" and it "cannot know peace, security, and prosperity by retreating from the world". So, "America must lead by deed as well as by example." In order to "shape the world" instead of "being shaped by it", "we must maintain and expand our national strength so we can deal with threats and challenges before they can damage our people or our interests. We must maintain a military without peer – yet our strength is not founded on force of arms alone. It also rests on economic prosperity and a vibrant

[7] Available online at < http://www.whitehouse.gov/nsc/nss.pdf>

democracy. And it rests on strong alliances, friendships, and international institutions, which enable us to promote freedom, prosperity, and peace in common purpose with others." Furthermore, a deterrence even based on the threat of massive retaliation may fail with states and non-state actors. Therefore, the US "must be prepared to use nuclear weapons if necessary" (XI Executive Summary, Doctrine for Joint Nuclear Operations, 15 March 2005)

The NPR underscores the pre-emptive use of nuclear warheads not only against "rogue states" but also against China and Russia. The JFCCSGS (Joint Functional Component Command Space and Global Strike) has the mandate to oversee the launching of a nuclear attack in accordance with the 2002 NPR. According to the Japanese Economic Newswire, "Nuclear specialists and governmental sources pointed out that one of its main missions would be to implement the 2001 nuclear strategy that includes an option of pre-emptive nuclear attacks on 'rogue states' with WMDs" (30 December 2005, quoted by Chossudovsky, 3 January 2006).

The Defence Department appears to be formalising military guidelines for seeking presidential approval to use nuclear weapons pre-emptively against suspected WMD facilities. The "final" draft of a new Doctrine for Joint Nuclear Operations, produced by the Joint Staff, differs from its two previous doctrines of 1993 and 1995 in that the document describes several scenarios in which US military commanders might request presidential authorisation for a nuclear strike against a suspected WMD threat.
According to David Duppe (2006), they are:
- "an adversary using or intending to use WMD against US/international alliance forces and/or innocent civilian populations that conventional forces cannot stop";
- "imminent attack from an adversary [biological weapons] that only nuclear weapon effects can safely destroy/incinerate"; and
- "attacks limited to an adversary's WMD (e.g. against deep, hardened bunkers containing chemical and biological weapons or the C2 [command and control] infrastructure required for the adversary to execute a WMD attack) that could be employed against the United States."

Critics have said the new guidelines reflect a shift toward an increasing role for nuclear weapons despite the Administration's denials. Putting nuclear and conventional weapons

on the same level legitimises the latter as they lose their specificity (Géré, 2005). The crisis level to use nuclear weapons has been lowered (Kristensen, 2005). The distinctions between strategic and substrategic weapons are blurred by the incorporation of strategic weapons in smaller regional conflicts (idem). Lowering the threshold is "an extremely dangerous tendency that is undermining global and regional stability", Russian Defence Minister Sergei Ivanov warns (quoted by Chomsky, 2005: 26).

The objective seems no longer to be deterrence through threatened retaliation but destruction of battlefield targets (Kristensen, 2005). Lewis, a former staffer in the Pentagon's defence policy office, said: "This doctrine document is an unclassified publication for combatant commanders. So it doesn't really establish any policies, but it should fairly accurately reflect the contents of the NSPD [National Security Presidential Directives] and the NWEP [Nuclear Weapons Employment Policy]" (Duppe, 2006). Nuclear deterrence is abandoned to the benefit of the use of nuclear weapons and pre-emption. The fear of a nuclear holocaust that previously prevented a total war has disappeared and there is a renewed support in favour of tactical nuclear weapons i.e. battlefield nuclear weapons to *win* a war, as opposed to weapons to *deter* and *prevent* a war.

It seems quite strange that with the best army in the world, the biggest military spending (42.8% of global military spending in 2002, source: SIPRI), and the biggest share of global wealth, the US might be afraid of third-world countries and claim to need nuclear weapons to be protected, in a strategy from the strong to the weak. The US Department of Defence made it clear in the 1999 yearly report that the required spending is "essential to make sure tomorrow's forces will go on dominating all the array of military operations" (M. T. Klare, May 1999, quoted by Virilio, 53). As for regional leaders, given that the US is disadvantaged in brinkmanship games, the RAND Institute, a not-profit company that conducts many studies for the Pentagon, recommends strategies based on escalation dominance[8], nuclear counterforce, threats against the regime, in other words overwhelming force and superiority over others (53-60). Nevertheless, if conventional weapons against third-world countries do not suffice, it is not a question of weapons. France lost wars in Indochina and in Algeria not because of weakness in weapons but because these wars were vital for the indigenous people.

[8] The deterrer deliberately escalates the conflict to show sufficient resolve to deter the opponent from continuing (Green, 2001: 7).

For opponents that cannot be deterred nor defeated, dissuasion is used as middle-ground before an adversary develops the capabilities or the will to attack the US. Condoleezza Rice said that an objective of American policy was to “dissuade any potential adversary from pursuing a military build-up in the hope of surpassing, or equalling, the power of the United States and our allies” (quoted by Freedman: 104). Such a policy aims at convincing adversaries that there is a more effective way to achieve their national or political goals. Dissuasion relies upon various components of national power: diplomatic tools (allies, partnerships, persuasion,…), military tools (security cooperation, military exercise,…), and technological tools (trade sanctions, embargo on prohibited technologies,…).

Finally, the US is expanding its role in space and pushing forward space weaponisation. The United States is increasingly dependent on commercial space companies for national security-related work as well as essential telecommunications and financial services. And who controls space controls the Earth. Putting the military squarely in the equation should act as a deterrent to those who would interfere with satellites, said Air Force Col. Anthony Russo, head of the US Strategic Command's space division, "because right now they can do it and expect to get away with it." (Wolf, 2006)

New weapons

Consequently, some changes are required to adapt the American arsenal to the new threats. “Administration officials argue that low-yield nuclear weapons[9] are needed as a credible deterrent against rogue states [Iran, North Korea]”, Michel Chossudovsky writes (2006). “Their logic is that existing nuclear weapons are too destructive to be used except in a full-scale nuclear war. Potential enemies realise this, thus they do not consider the threat of nuclear retaliation to be credible. However, low-yield nuclear weapons are less destructive, and thus might conceivably be used. That would make them more effective as a deterrent” (“Opponents Surprised by Elimination of Nuke Research Funds, Defence News, November 29, 2004, quoted by Chossudovsky, 2006).

Low-yield weapons include the Robust Earth Penetrator, killed by the Congress in 2005, and the bunker-buster (variation of existing warhead to destroy buried enemy targets), both battlefield weapons aiming at winning wars, and not preventing them. Their deterrent

[9] The low yielding mini-nukes have an explosive capacity of one third of a Hiroshima bomb (yield of less than 5000 tons).

relies on the certainty of winning a war (whether provoked or not) instead of a massive destructive power – not credible – in the MAD doctrine. But then, nuclear weapons are not necessarily the most appropriate means to reach the goal, as voiced by the Republican Representative Jim Matheson (Utah), who expressed some members of the Armed Services panel's opinion: "No one is going to argue about pursuing new technologies to address the threat posed by terrorists hiding in hardened or deeply buried sites. But we should ask and answer this question about whether nuclear weapons regardless of yield, can even get the job done" (Smith, 2005).

2.2 Vision of nuclear deterrence for the USSR and the Russian Federation

2.2.1 Vision of the Soviet period

There are several main differences between the Soviet and the American views of nuclear weapons and nuclear deterrence. While the US believes a war is likely to occur and gets ready to wage it, the Soviet doctrine argues that war between capitalism and socialism can be avoided. While in the 1950s the US population was mainly in favour of a pre-emptive strike on the Soviet Union to destroy the threat – which is more or less the current US doctrine against 'emerging threats' – the Soviets were more inclined to stress avoidance of a crisis to prevent war. They are also more pessimistic about managing the crisis successfully and avoiding war. They adopted an 'essentialist' approach which asked whether there was any 'rational' outcome to limited war or to nuclear-crisis management, and in all likelihood the answer would be no (Cimbala 16), contrary to US policymakers and many strategists who had great confidence in the tools of nuclear-crisis management and conflict termination.

Historically, the Soviets started to discuss the implications of a nuclear war after Stalin's death, while nuclear weapons were already the cornerstone of NATO's doctrine. Contrary to Westerners, the Soviets believed a nuclear war was winnable. Nuclear weapons would determine the speed of a war, but not its entire character. Since they shorten war, it was essential to strike first, preemptively, with nuclear or conventional weapons. This massive first strike would prepare the ground for a land invasion, contrary to Westerners who never foresaw further than the first strike. In 1964 they had a plan assuming the war would be nuclear at once and would be initiated by the West. Indeed, the Soviet leaders viewed the West as the aggressor, whereas the West viewed them as the aggressor (enemy images).

NATO's doctrine of flexible response in 1967 failed to stop the Soviets from believing they could win a nuclear war. Similarly, US nuclear superiority did not manage to discourage them from indulging in nuclear brinkmanship (Lunar, 2001).

Soviet nuclear weapons fulfil three missions. They are a deterrent, they give a political aura, and they are a tool to avoid a US attack and maintain a balance with the US (strategic deterrence). The traditional function of balance is indeed to prevent a strike by means of a credible threat. On the contrary, in the US they are a tool to maintain US superiority and avoid a crisis or win a battle should war be unavoidable.

Gorbachev's book *Perestroika* (1987: 140-142) clearly illustrates this vision.

> "The fundamental principle of the new political thought is very simple: nuclear war cannot be a means to reach political, economic, ideological or other objectives… nuclear war has no meaning ; it is irrational… It would be a suicide rather than a war in the conventional meaning of the word.
> The new political point of view recognises another axiom: security is indivisible. Either the same security exists for everyone, or else it exists for no one. The only solid base for security is recognising interests of all the peoples and all the nations, of their equality in international affairs."

The Cold War could not actually have ended without Soviet President Gorbachev's vision of conflict termination. In his opinion, the values of humankind outweigh the values of class, so there are no irreconcilable political differences, class struggle can be ended. His model of conflict termination supersedes the previous model of two-sided containment and bipolar confrontation (Cimbala: 17). To put it differently, political means can do as much as strength. This is a fundamental difference with the USA which believes in force to solve conflict.

As an example of this good will and belief in politics, Gorbachev proposed a plan of complete and general disarmament for intermediate missiles, strategic weapons, and a space shield within 15 years in January 1986. In October 1986, at the summit of Reykjavik, the US relaunched the Soviet offer and proposed to completely dismantle Euromissiles but avoided the shield and strategic weapons. Contrary to what was expected, Gorbachev accepted and Reagan had to follow suit. In December 1987, the US signed a treaty to eliminate atomic weapons from the European theatre between 500 and 5000 km

(Euromissiles). It was the first time that stockpiles were reduced and not limited. The Soviets accepted the principle of asymmetric reduction of its weapons and a reliable control on the ground (Maiocchi: 100).

2.2.2 Position of NATO during the Cold War

NATO was the Western equivalent of the Warsaw Pact. However, the US granted itself certain things through this network that it banned the USSR from having. Khrushchev denounced this very clearly during the Cuban missile crisis, saying basically that when the US placed nuclear weapons in Western countries close to its borders and targeted them at the Soviet Union, that was normal, but when the Soviet Union put nuclear missiles on an ally's territory like Cuba close to the US borders and targeted at the US, it is a major crisis likely to turn into war (as quoted by Maiocchi: 80):

> "The entire world knows the United States has encircled the Soviet Union and other socialist countries with military bases. What did they instal? Tractors, maybe? Or they cultivate rice, corn, potatoes or any other farm products? No, no! They have brought weapons, and these weapons – deployed along the borders of the Soviet Union, in Turkey, Iran, Greece, Italy, Great Britain, Netherlands, Pakistan and in other countries belonging to military blocs of NATO, CENTO, SEATO – didn't we say they are there of divine right? They consider that as being their right! But to others, the United States does not concede this right, even for defensive purposes, and when measures are taken to strengthen the defense of such or such country, the United-States shouts out and claims an attack is being prepared against it."

Far from reducing tensions, these double standards were obviously felt as a provocation. This encouraged an arms race and might eventually justify the possession of nuclear weapons to 'deter' the aggressive 'enemy' in a self-fulfilling prophecy.

2.2.3 Position of NATO today in Russia's eyes

NATO enlargement and massive conventional superiority over Russia led the Federation to rely more on nuclear weapons as key providers of security. In addition, Russia unilaterally withdrew from its satellites nuclear weapons targeted at its former Cold War enemies. But not only did the US did not do the same – 480 nuclear warheads still occupy European soil – but it has instead extended its bases around the Russian territory – US bases are not only in Eastern Europe but also in Central Asia (namely in Tajikistan, Uzbekistan, Pakistan and Kyrgyzstan). Western countries should realise that NATO enlargement is perceived as a threat by the Russian Federation. Indeed this enlargement

has been achieved in Central and Eastern European countries i.e. former Soviet satellites. So the US occupies the Russian area of influence and sets up its bases close to the Russian borders while explicitly listing Russia as a potential target of a nuclear strike.
But it is precisely because US and European countries keep relying on nuclear weapons against a potential though unlikely Russian threat that Russia is unlikely to decrease its reliance on nuclear weapons. It is difficult in these conditions not to share Russia's concern of becoming a victim of this encirclement.

Freedman explains that "With their conventional forces in steep decline and the intentions of the West suspect [e.g. US Nuclear Missiles Defense programme], Russian generals concluded that they were bound to rely on nuclear deterrence" (21). In other words, Russia could have been ready to renounce nuclear deterrence if the international context had been favourable, and if the USA and Western countries had given reassurances. But despite the collapse of the Soviet Union and a regime change, Western countries are still concerned and keep viewing Russia as a political threat. The situation is deadlocked unless Western countries realise Russia is no longer a threat to them and give it reassurances to lower its guard. Only then could peaceful relations be established among former Cold War enemies, and nuclear deterrence be admitted as pointless.

2.2.4 Vision today

We might have assumed that the end of the Soviet regime would lead to nuclear disarmament or at least a decrease in the nuclear role. But for a set of reasons nuclear weapons still play a key-role in the security of the Federation and its allies, as in the US.
First, the Russian Federation maintains its nuclear arsenal because it still feels threatened by the USA and Western countries. In addition, various regional crises implying foreign interference (Kosovo, Iraq,…) make Russia heighten the role of nuclear weapons. In addition, we should not forget the importance of the political status conferred by nuclear weapons: since Russia is not a great economic country, Putin uses nuclear weapons as the key to open the door to the club of the richest and most important countries. "Putin picked up on these weapons as a political slogan," says military analyst Pavel Felgenauer. Commenting about the new warhead Moscow designed to evade US defences, he said "He [Putin] is promoting this warhead as proof that we can still do things, still stay in the game." The point is not to nuke Washington but to ensure Putin and his successors have that option, concludes Owen Matthews (2006). This gives Russia a second strike capacity,

the French expert Boniface believes. According to the Duma Defense Committee, 200 warheads are a minimum (Boniface: 51).

Much like the US theorists in the 1970s and 1980s, the Russian military experts considered that even a limited use of nuclear weapons was considered to end in a global catastrophe. But today, nuclear weapons are not just to deter by promise of global annihilation, but are intended to achieve specific limited military objectives, in other words they are to be used as any other weapon on a battlefield to win a war, securing conflict termination terms favourable to Russia, and de-escalation, according to the political analyst Sokov (1999: 29). The current Russian doctrine allows for the use of nuclear weapons in global war and regional war, but not for local war and armed conflict (mainly ethnic and national conflicts rather than inter-state wars). In a regional conflict, their role is de-escalation i.e. to avoid a military defeat within a conventional war and to create favourable conditions for a negotiated termination (Sokov: 28). Escalation however from one level to the next is possible, i.e. a local war can become a regional war and thus allow the use of nuclear weapons (Sokov: 27, 28).

The official definition of the security concept was revised in 2000. Russia defines the reasons to use nuclear weapons as follows: "One of the most important tasks of the Russian Federation is to secure deterrence in order to prevent aggression, whatever the scale – even nuclear – against Russia or its allies. The Russian Federation must possess nuclear forces capable of inflicting definitely adequate damage to any aggressor – be it a state or a coalition of states – whatever the circumstances″. Nuclear deterrence is defined as “guaranteed infliction of predetermined damage to any aggressor state or a coalition of states under any circumstances” (Shilin: 2004). Nuclear weapons are considered as “an effective means of deterring aggression, ensuring the military security of the Russian Federation and its allies, [and] maintaining international stability and peace.” (Sokov: 24-25).

‘Allies’ refers to Russia’s former satellites which still rely on it for their protection. For the Russian Federation we can now also talk about extended deterrence or substrategic deterrence for regional conflicts – as opposed to strategic deterrence, primarily oriented towards the bilateral United States-Russian nuclear balance. However, several of them have opted for another protector, the one which ‘won’ over the Soviet empire: the United

States of America, by joining NATO on April 2, 2004 (Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia).

Despite its nuclear doctrine, according to the analyst Alexander Golts the Russian army is not prepared for the new threats. Instead of reforming it and giving it the means to face local separatist conflicts, which are Russia's current biggest threats, the army is still geared to fighting a world war and goes into raptures over new secret weapons like the Topol-M, able to evade the US anti-ballistic shield (Owen Matthews, 2006). In addition, in a decade, according to analysts, Russia will have just 500 warheads compared with America's 2,000 state-of-the-art nuclear weapons (ibid.).

This illustrates a contradiction that appears in nuclear deterrence studies: an internal contradiction among political leaders and the military. Already in the 1970s and the first years of the 1980s, the Soviet military emphasised the need to prepare for war on military and technical levels, while political leaders were more favourable towards avoiding war and peaceful conflict termination (Cimbala: 9). On the one hand, political leaders reject military attack and favour defensive means; on the other hand, the military strongly believes the higher the capacity of Soviet armed forces, the more solid the defense, and the less likely an attack; in other words, the more offensive the means, the more defensive the means (Cimbala: 145). The solution to this contradiction may be found in the "reasonable sufficiency for defence". But for today, the Russians should "tackle the most serious problems of Russia's creaky military" according to Owen Matthews (2006). Its army should become smaller, more professional, which means spending more money and "taking on more vested interests than Putin's ready for". Improvement in conventional weapons would make Russia less dependent on nuclear weapons for its security. And an improvement in its security environment with the withdrawal of NATO and US bases would remove the perceived threat. But as the US domestic policies will hardly change in a sense that would be favourably seen in Russia, a reversal in the evolution of Russia's nuclear doctrine is hardly possible (Sokov: 30).

2.3 Vision of nuclear deterrence for France with some implications for Europe

The decision to go nuclear is usually associated for France with the failure of the 1956 Suez crisis. But in reality France initiated a nuclear weaponisation programme on 26 October 1954, when the Prime Minister Pierre Mendès France signed a decree instituting a Superior Commission of Military Applications of Atomic Energy (Commission supérieure des applications militaires de l'énergie atomique). This decree was supplemented on 4 November by an order creating a Committee of nuclear explosive devices (Comité des explosifs nucléaires). At the end of 1954 the Atomic Energy Commission (Commissariat à l'énergie atomique, CEA) had set up an Office of General Studies (Bureau d'études générales), first version of the future Direction of Military Applications (direction des applications militaires). The CEA had been created in 1945 and was in charge of developing research on nuclear energy for use in industry, sciences and national defence. Officially, the CEA was created only for peaceful purposes, which is still the official and public position of France today.

France tested its first nuclear weapon four years later on 13 February 1960 in the Sahara Desert, Algeria, and its first H bomb on 24 August 1968 in French Polynesia.

2.3.1 Principles justifying nuclear deterrence

As mentioned previously, the then French President De Gaulle argued that deterrence could not be shared (also explained in Canberra 10). The potential of destruction is so tremendous that it can only but be used to defend genuine by vital objectives – the European territory is not vital for the US. This justified the desire to emancipate France from the US nuclear umbrella and to guarantee its own security. Nevertheless, it is worth noting that France is today proposing to share deterrence with Europe, pretending its vital interests are so much intertwined with European interests that they are alike.

Since France could not obviously compete with the two superpowers for it was not wealthy enough to enter the arms race, it adapted the nuclear deterrence doctrine. It argued that it could deter potential enemies not because of its superior strength but because it could inflict damages that would outweigh any potential gain the aggressor could enjoy from an attack. This was General Gallois' doctrine, contested by the Russians and the Americans, but approved by De Gaulle, of the deterrence "du faible au fort", from the weak to the strong, or "minimal deterrence". It is therefore not necessary to have a strike force as

powerful as the opponent's. In other words, France will possess only the strict minimum to deter any attack on its vital interests.

This theory leads to the conclusion that the atom is a relative equaliser of power. Therefore the advantage goes to the one who strikes second. This doctrine is incompatible with the doctrine of graduated deterrence adopted by the US since there is no proportionality to the attack but a massive strike to inflict sufficient damage to the aggressor to dissuade an attack in the first place. The political analyst Pascal Boniface points out another difference, stating that the French doctrine implies avoiding the use of nuclear weapons, while the graduated retaliation doctrine means using battlefield nuclear weapons (1999: 24).

This doctrine is France's fundamental guarantee of its security, as repeated in every single official pronouncement on nuclear deterrence. But the goal was and is also to possess the most powerful weapons to thereby confirm the rank of the country among the five great countries, which are also the permanent members of the UN Security Council. The national consensus about nuclear weapons comes from the perception by most French people that the aim of possessing nuclear weapons is peacekeeping and that nuclear weapons effectively contributed to keeping the peace during the Cold War (Duval & Mongin, 1993: 122-123). François Mitterrand, President of the French Republic in 1981, said that possession of nuclear weapons "is a reality, a prestige, an asset for our influence". This is expressed proudly in this argument given by the IRIS Institute: "If the possession of nuclear weapons does not constitute the exclusive criterion of political power on the international scene, who would see that only the United States could afford to renounce atomic weapons while maintaining their stature in the world?" (30) But even the US that could do without them claims it needs them for its security.

2.3.2 Definition of nuclear deterrence for France

France defines its nuclear deterrence as having as its sole aim to *deter* aggression and not to *defend* against aggression or win a war. The weapons are not for the battlefield but as a last warning of France's determination to protect its vital interests[10]. Because the aggression to deter may not involve nuclear weapons, France adopts a first-use policy, while claiming its deterrence means non-use of nuclear weapons. The 1994 White Book

states that deterrence relies "on the perception by any adversary of unacceptable risks, disproportionate with the stakes of the conflict that aggression against our country would bring about". In case deterrence fails, the country could strike as "ultimate warning". And beyond that, it is up to the President to decide whether or not to use nuclear weapons.

This doctrine raises several questions. First, how can one affirm the weapons are not to be used and still have a credible deterrence policy? How to reconcile a non-use policy and a first-use policy? Is it rational to spend so much money (€5 million a year) for weapons whose mission is just to frighten off would-be aggressors? Moreover, the definition from the weak to the strong raises another question: how to assess the strict minimum? Even some French diplomats do not have the answer to this question[11].

Pascal Boniface, director of the prestigious Institute of International Relations and pro-nuclear weapons does not see any contradiction in no-use, first-use and credibility (1999). According to him, the aim of the French nuclear deterrence is to deter aggression in the first place and not to win or even wage a war with nuclear weapons. Nuclear weapons are thus not to be used. They exert their deterrent mission only by existing and by *threatening* a first strike, that should not be actually carried out. The huge destructive power and the first-use policy suffice to make the threat credible. Having a no-first use policy is not deterrence, in his opinion, but punishment. The advantage of a first-use-policy is that it effectively prevents aggression in the first place, avoiding the need to actually use nuclear weapons, punish, and thereby contravene international and humanitarian law, since "the use of nuclear weapons is a crime against humanity and against civilisation" (UN General Assembly Resolution 1653 (XVI), 1961). This enables him to conclude that the French doctrine is perfectly legal.
Jacques Bauble, like other experts (Jacquard, 1997: 11-12), pinpoints the contradiction: "Holding a political discourse stating that our doctrine is a doctrine of non-use is the very negation of deterrence. There cannot be deterrence if the adversary believes we will not use nuclear weapons *in fine*" (1994: 35). But for Boniface, this is the very difference between political weapons (determent) and weapons for military purpose (117), failing to understand where credibility lies.

[10] Chirac' speech (May 16, 1998) reiterates that the "concept of deterrence excludes, I underline it, any idea of nuclear battle" (quoted by Boniface, 64). In his most recent speech on this topic (19 January 2006), he said: "There is absolutely no question of using nuclear means for military purposes during a conflict."

As stated previously, the French doctrine is based on “minimum only” as opposed to the superpowers’ doctrine. The notion of proportionate deterrence or minimal deterrence is a concept elaborated by General Pierre Gallois in 1960. According to his theory, even a small state even small can be in a balanced position vis-à-vis the enemy if it is able to inflict damage to the enemy proportionally higher than the advantage it could obtain from winning the war. “Deterrence is not based only on a threat of total destruction of a country, Roberto Maiocchi reminds us, but also on the capacity to inflict upon the enemy a partial destruction totally disproportionate to the advantages a victory could give him” (95). It was a brand new strategic situation, allowing even a modest country to confront an enemy on an equal footing. As a weak country can face a strong country, the strategy is named “from the weak to the strong.” This doctrine is incompatible with McNamara’s theory, according to which the targeting is co-ordinated, hence France’s withdrawal from Nato’s military command.

Finally, the French form of deterrence does not deter according to the nature of the threat – since it is against any WMD – but to the magnitude of threat, and if its vital interests are threatened. According to the researcher in the sociology of defense Alain Joxe, it is because France is inferior in the classic sense that the likelihood of a nuclear strike is credible to defend vital interests, otherwise it would be completely irrational (1997: 115).

2.3.3 Reasons for French continued reliance on nuclear deterrence

In the same way that we have studied the US and Russian revised doctrine after the end of the Cold War, it is now worth examining the reasons France puts forward for maintaining its nuclear weapons.

Prestige

To begin with, as in the Russian case, having nuclear weapons has still to do with prestige and stature, even if this is not explicit. Pascal Boniface frankly explains that it cannot be explicit because it induces a reaction of rejection, so political leaders set forth the argument for security instead (141). Nevertheless, we can sometimes hear it, for example from the Defence Minister Michèle Alliot-Marie: nuclear deterrence must “make France a

[11] Personal interview (May 2005) of Jean-Michel Despax, deputy of France’s permanent representative to the Conference on Disarmament in Geneva.

key nation which is listened to on the international scene" (January 11, 2005), or as mentioned in the report annexed to the 2003-2008 military programme bill of law[12].

Parliamentarian Serge Vinçon presented the report n° 117 about this bill of law[13] which lists the current threats justifying the maintenance of nuclear weapons. It starts by saying that the new threats do not replace the old but add to them[14]. This seems debatable to me: the Soviet threat really disappeared. Nothing is static. Threats evolve. Then he details the potential origins of a threat targeted at France: a major hostile power able to jeopardise our very survival; regional powers with WMD threatening the country. However, it is almost impossible to find any country fulfilling the above criteria: only the UK is a regional power with WMD but of course it has no hostile intentions. As for major powers with big arsenals – US and Russia[15] – neither has hostile intentions.
Boniface honestly admits that "Today, the military threat weighing on our country is feeble, almost nil". But he shares the same vision as the US hawks and many others: the future is too uncertain (Boniface, 33: Bush, 16 March 2006). However, the future is uncertain for everyone. It has always been so and will always be. Is this a reason to wear armour all the time? Boniface concludes that though threats have evolved since the Cold War, French deterrence remains necessary since France needs to defend its interests (128). And as long as other countries own nuclear weapons, France must own them too (a view also shared by Paul-Ivan de Germain, 1996: 19). As General Poirier said, we do not know who our next enemy is so it is better to keep our nuclear forces "in a state of latency" or "posture of strategic expectation", just in case (1984: 40). The threat is vaguer nowadays even if conventional weapons could do the job (cf. André Dumoulin). If we follow his reasoning, nuclear deterrence is necessary as long as French territory exists.

To summarise, those in favour of maintaining nuclear deterrence claim a danger can still re-emerge: Russia or China can blackmail us or try to impose their dictates on us (personal interview, Despax, 2005). This would have one suppose that the old fears are still very significant to those who experienced the Cold War, as opposed to younger generations. Besides, they have no confidence in the future nor in any country, so they would rather rely on the 'best' guarantee because of its massive power, a guarantee which did not fail during the most terrible period ever (the Cold War): nuclear weapons, to "get

[12] Available online < http://www.legifrance.gouv.fr/html/actualite/actualite_legislative/pl_progmilitaire.htm>
[13] Available at http://www.senat.fr/rap/102-117/102-11712.html.
[14] Also mentioned by President Chirac in his 19 January 2006 speech.
[15] Together they own 9% of global nuclear weapons.

people back to more reason", as Chirac said in his January 2006 speech (reiterating in a 2001 speech at the IHEDN: "Demanding restraint, appealing to reason, credible nuclear threat commands peace.").

If we look at this situation not from an international point of view but from a local one, at the micro level, everyone agrees that going out in the streets can be a dangerous act too – because of pickpockets, bad driving habits, and so on. Wearing a gun – and letting everyone know it – can be a means to being feared and left alone. Adopting this behaviour can be acceptable in dangerous times like wartime, if not in time of peace, though it is tempting to go on threatening everyone to maintain one's 'quietness'. How can one expect others to adopt peaceful behaviour and give up guns if one keeps one's own?

Revised doctrine (2006)

Whilst calling for "a fairer, more representative international order based on the rule of law and collective security" and stating that France's first priority is "prevention", French President Chirac in his January 2006 speech adopted a much more realistic approach, claiming that "Believing that prevention alone is enough to protect us would however be naively optimistic. In order to make ourselves heard, we must also be capable of using force when necessary" though "There is no question, under any circumstances, of using nuclear means for military purposes during a conflict."

The January 2006 speech clarified certain ambiguities in the doctrine caused by successive adaptations to the post-Cold War world apparent in previous speeches and official documents (2001 and 2003 speeches at the IHEDN, military programming law, and so on), which needed to be made official by a public speech. The doctrine remains a doctrine of deterrence, but its expression has changed (Tertrais: 2006). Chirac summarised the potential origins of threats to France's vital interests and indicated that nuclear weapons might be used in more focused attacks and not only for total destruction[16]. States supporting terrorist groups or "considering" deploying WMD became potential targets. Therefore the country needs new nuclear warheads and missiles to carry out targeted attacks on "centres of power" and against their "capacity to act". As Bruno

[16] For instance, this need was already recognised in the Report of the House Defense Committe commenting on the president's speech delivered on 8 June 2001 along these lines: "These words reveal a change taking place in France's nuclear doctrine. Until now, the issue of an answer somehow 'calibrated' according to the attack's harshness was not part of the French doctrine" (Teissier, 2002: 24).

Tertrais notes, deterrence has become a “necessary component of conflict management: if France can intervene everywhere in the world, it is because it is protected against blackmail from a power which would like to prevent us from defending our interests” (2006).

This speech evoked little opposition. In the left-wing political spectrum, Laurent Fabius for instance – former Prime Minister – supported the revised doctrine in an interview on TV channel LCI and the France Info Radio on the same day. But others like Louis Gautier, the opposition party’s spokesperson, qualified the speech as “dangerously ambiguous” because it suggested France could use nuclear weapons against terrorist groups and slip towards a “graduated response”, like the US (MacLachlan and Hibbs, 2006).

Terrorists states were relatively numerous in the 1980s (Libya and Cuba were welcoming states). Nowadays, terrorist groups like Al Qaeda no longer rely on particular states. True, many members can be found in Pakistan but this country has much helped the US in capturing terrorists. Furthermore Al Qaeda members live in Western countries such as Germany, the UK and France. Should France bomb itself or Germany? Should it bomb Pakistan? The hidden but obvious target of this revised doctrine is Iran which supports certain terrorist groups (Palestinians mainly). But choosing to enforce a doctrine selectively is not a wise decision and sets a model of double standards. Besides, as pointed out by a German official, Chirac’s statement “is contrary to the international legal principle of proportionality”, which implies that attacking a terrorist group or target with a nuclear weapon “would amount to irresponsible overkill” (quoted by Ann MacLachlan and Mark Hibbs, 2006).

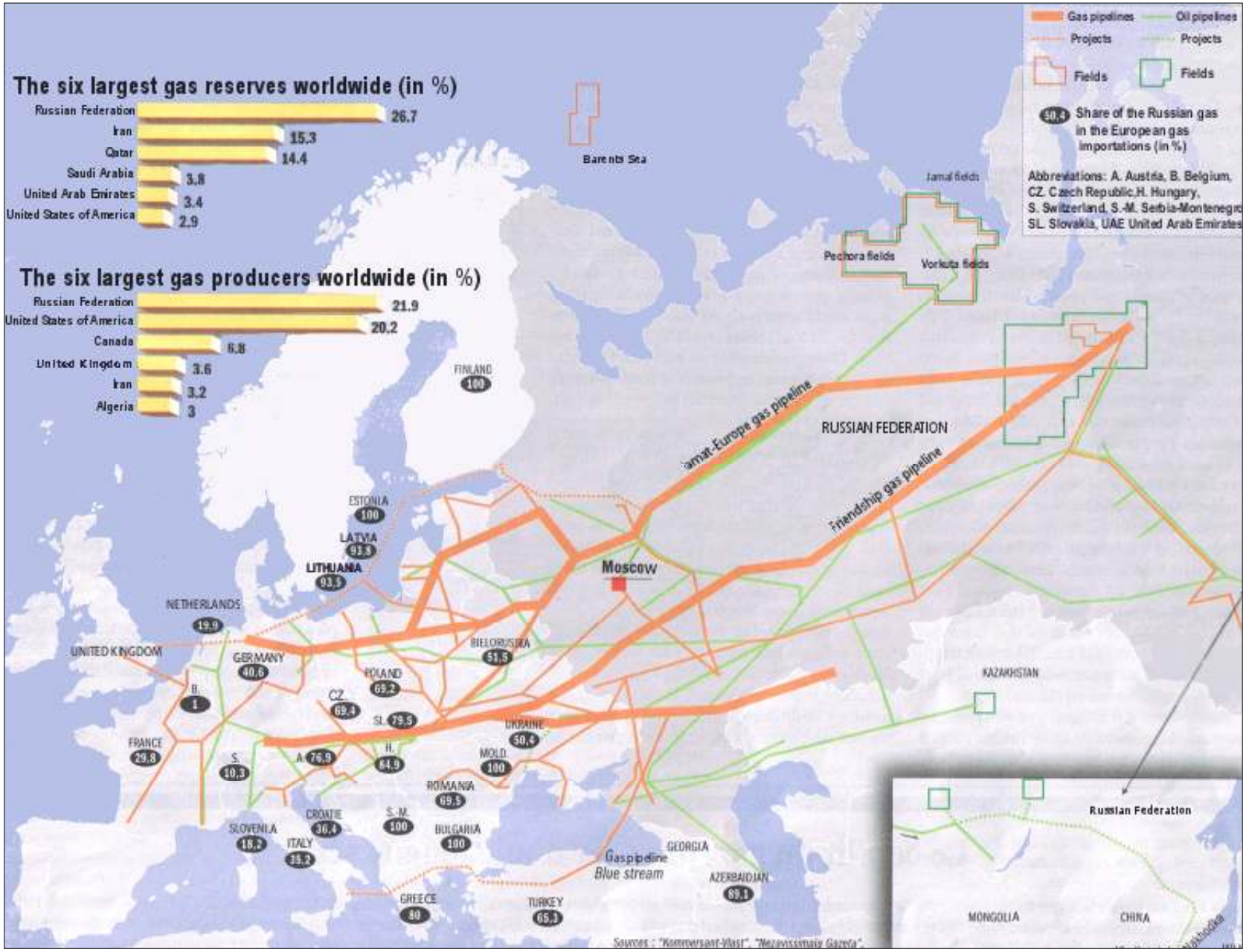
As for the change in vital interests, it is worth first of all turning our attention to the definition given to vital interests so far. Basically, they include territorial integrity, economic interests and political interests (IHEDN, 2002: 25). Pascal Boniface says “the free exercise of our sovereignty, the integrity of the national territory and its dependencies, its air and sea approaches make up the heart” (1997: 122). The official choice is to remain vague in order to frighten even more and increase the deterrent power. President Chirac referred in his recent speech in January 2006 to France's long standing policy to use a nuclear warning shot “to mark our determination to safeguard our vital interests.” He reasserted that nuclear weapons remain the “ultimate guarantor” of French security and are “fundamental” to France's “independence and security.”

Chirac added a new vital interest in January: energy supplies. He made it clear that protection of the supply of natural resources supply is in the "vital interest" of France and they must therefore be protected. “[Our world] is confronted with the appearance of new sources of imbalances, in particular the sharing of raw materials, the distribution of natural resources, and a changing demographic equilibrium." In another place he adds “our strategic supplies ... are, among others, interests that must be protected.” And: “The credible threat of their [nuclear weapons] utilisation permanently hangs over those leaders who harbour hostile intentions against us. It is essential to make them see reason and to make them aware of what the inordinate cost of their actions would entail for themselves and their states. Furthermore, it goes without saying that we always reserve the right to resort to an ultimate warning to mark our determination to safeguard our vital interests.” That sounds very much like a threat to a state that might refuse to deliver urgently required resources to France.

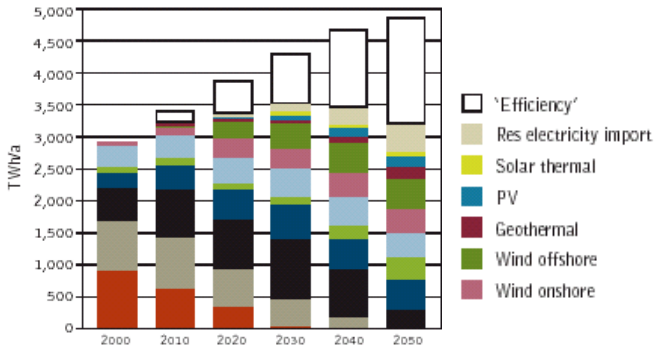
On the one hand, this claim is understandable. Certainly energy supplies are becoming a critical issue with the limited nature of oil sources and the increasing demand for energy. But France’s claim is debatable on two grounds.

First, the US is doing its best to control oil supplies, as has been pointed out by the journalist and Arab expert Antoine Sfeir (2006). And Russia is controlling the European gas supply (Zygar, 2006: 14-16; map 2), with Western Europe’s consent and support. Former German Chancellor Schröder is now board chairman of a Russian-German gas pipeline project.

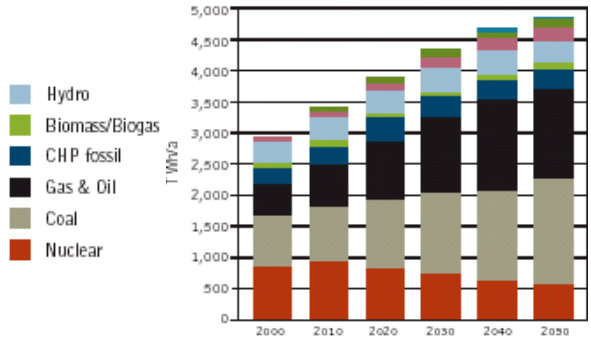
Second, a very simple way out of energy dependence is opting for renewable energies. A study by Greenpeace on energy in Europe shows that in 2000, Europe relied for 70% of its primary energy consumption on fuel oil, coal, and nuclear energy combined. Fuel oil itself made up for almost 40%. This represents a huge dependence on new energy sources, besides a dependence on external suppliers – except France which produces of its own electricity 90% from nuclear energy. The Greenpeace study shows renewable energies put an end to these two dependencies (cf. figures 1 and 2). If France and other countries wish to secure their energy supplies, the simplest way is to invest right now in renewable energies instead of threatening everyone with a nuclear strike.



Map 2: Russian gas and oil pipelines supplying European countries
Source: Courrier International n°793, 2006.
French translation: Sophie Lefeez



Charts 1: Development of the electricity supply structure under the energy development scenario (efficiency reduction compared with the reference scenario) (source: Teske, 2005)



Charts 2: Development of the electricity supply structure under the reference scenario (source: Teske, 2005)

2.3.5 Concerted deterrence in Europe

Being structurally and fundamentally at the heart of Europe, France naturally does not contemplate its future and security outside the European framework. With the increasingly intertwined interests and interdependence, France's vital interests cannot be separated from those of its European partners.

It was logical that in 1992, just after the signing of the Maastricht Treaty, President Mitterand raised the issue of a European doctrine of nuclear deterrence. A couple of weeks late, the then Minister of Defence Jacques Mellick suggested several options and used for the first time the expression "concerted deterrence", subsequently sanctioned by the Prime Minister Alain Juppé in a speech to the IHEDN in August 1995, when he explained that concerted deterrence did not mean unilaterally expanding the nuclear umbrella or sharing the decision to use those weapons.

France needs to discuss with its partners the integration of nuclear deterrence in the European building process as a complement to the Atlantist protection (Juppé, 1995: 147). Bruno Tertrais distinguishes several models of collective deterrence culminating in a closely integrated decision-making process to use nuclear weapons (as cited in Schmitt, 1997). The last stage requires tight cooperation with the US and of course NATO.

Similarly, some have ultimately claimed a nuclear Europe could be the only means to allow Europe to exist independently from the United States. General Paul Vériel was not taken seriously when he said in June 1995 that "*Europe will exist when it is a nuclear power*". Only in a parliamentary report in 2001 "La France et les bombes – Les défis de la

prolifération des armes de destruction massive" (France and Bombs – The Challenges of WMD Proliferation) did the idea re-emerge of a European power based on nuclear weapons: "It is time to lift the nuclear taboo that weighs on the European debate when another taboo has just been lifted with the constitution of a European intervention force. *The Europeans cannot be satisfied with a common position on nuclear non-proliferation without raising in the public place the issue of the nuclear weapon in European security in the 21st century"* writes one of the authors (331). Only a united Europe could launch a programme of anti-ballistic missiles, according to Delmas (45). Xavier de Villepin (1998: 34) believes that "a specifically European defence cannot be deprived of a nuclear dimension, except to leave it, once again, to the United States", reflecting the Cold War vision that Europe cannot do without the US unless it has nuclear weapons. Dominique Strauss-Khan, a left-wing politician, also believes in the equation: Europe = nuclear deterrence (debate on the European Constitution, TV channel 2, 17 February 2005).

Has the time come for a common defence policy and a common defence industry? In a task force report on European security policy, the European Defence White Paper of May 2004[17], in particular in strategic scenario IV, the use of nuclear weapons was explicitly not excluded, though the type of weapon was not mentioned.

In fact Europe is divided among those in favour of nuclear weapons – basically the current nuclear-weapon states, France and the UK, plus some Germans – and those against – Ireland, Sweden, Austria and Finland. Another division separates those in favour of independent security – whether or not based on nuclear weapons – and those in favour of NATO's (nuclear) umbrella.[18] According to Le Guelte, France's European partners in 1995 said they did not want the French nuclear umbrella and they preferred to work within NATO (MacLachlan & Hibbs, 2006).

In his speech at Ile Longue in 19 January 2006, Chirac reiterated that "French nuclear deterrence, by its very existence, [is] a core element in the security of the European continent" and proposed a "deepening reflection" within the European Union about the role of "existing" nuclear weapons in a "common defence". So it appears that the idea of nuclear sharing remains alive and in the aspirations of France's political leadership. The

[17] Available on http://www.iss-eu.org/chaillot/wp2004.pdf.
[18] Georges Le Guelte, an expert at the Institute for International and Strategic Relations (IRIS) in Paris, said in a telephone interview that France's European Union partners in 1995 had said that they didn't want the French nuclear

Belgian Foreign Minister also supports this idea. He said on 21 January 2006 that "If we want an integrated European defence system, it is logical that it would integrate existing nuclear arsenals... A strong European branch would increase the equilibrium within NATO.... [and] boost Europe's political clout" (Naughton, 2006). The former German Defence Minister and professor of law, Sholz, took advantage of Chirac's speech in January to call for proper nuclear deterrence for his country: "We need a serious discussion over how we can react to a nuclear threat by a terrorist state in an appropriate manner – and in extreme cases with our own nuclear weapons", he said (Global Security Newswire, 2006).

Indeed, as the French politician Dominique Strauss Khan said during a debate on the TV channel France 2 (Feb 19 2005), if the European defense is eventually based on nuclear deterrence, it means that nuclear weapons would be imposed upon Italy, Finland[19], Austria, Ireland[20], Sweden[21], countries not members of NATO, in total violation of the NPT Articles I and II, and in opposition with the European Parliament which regularly issues resolutions demanding that its members states respect the NPT and their commitment to nuclear disarmament (26 February 2004, 9 March 2005, 8 February 2006, to mention only a few).

The UK has also offered to share its nuclear weapons with the rest of Europe. The UK's Secretary of State John Reid made it clear in a reply to a parliamentary question on 23 January 2006 that the country's nuclear arsenal has already been part of a European Defence structure for 40 years through NATO, meaning there would be no reason why British and French nuclear arsenals could not be integrated in a European defence system.

The UK started a discussion with France on nuclear sharing as early as in the 1990s, originally on the development of an air-ground far-reach missile (ASLP) (Croft, 1996: 771-787). France, the UK and the US agree today on the broad parameters of nuclear deterrence and share the basic principles. According to Schmitt (1997: 3), their nuclear weapons are more than ever political instruments to be used in Europe to:

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umbrella and that their preference was to operate within NATO" (Ann MacLachlan and Mark Hibbs, 2006). Le Guelte also held positions in the French Foreingn Affairs Ministry and at the Commissariat à l'Energie Atomique.

[19] Finland wants the destruction of every tactical weapon in Europe.

[20] Sweden and Ireland are part of the New Agenda Coalition, a group of eight countries lobbying for speedy nuclear disarmament.

[21] Sweden has opposed nuclear weapons for a very long time, though it has thought about developing its own (Wayne Hall, 2006; Miller & Ruina, 1997: 161-164).

- make impossible a large-scale conventional conflict in the long run;
- prevent Russia, should it again prove aggressive, from resorting to nuclear means to exert blackmail or pressure on its Western neighbours during a political or military crisis;
- restrict collective violence on the continent by projecting a nuclear shadow as soon as a member of the alliance is involved in a regional conflict;
- offer an extra option to deter any WMD proliferation.

These reasons can be refuted. First of all, the original aim of building Europe was to avoid another war among European countries and the means was not nuclear weapons and a threat of annihilation should someone disagree, but economic cooperation, awareness that countries depend on one another and that fighting goes against the common interest, following Adam Smith's thesis (*An Inquiry Into The Nature and Causes of the Wealth of Nations*, 1776). Peaceful means have not proven insufficient so far.
Second, portraying Russia as potentially dangerous does not hold good. The arguments given explain that it is a country "economically weak" and its democracy is "not yet fully developed", to quote the UK document, "The Future Strategic Context for Defence" (2001). Democracy offers little guarantee. France could have democratically been led by a far-right politician in 2002, Austria elected a far-right party in its government in 2000. Aggressive diplomacy is not correlated with economics. Russia has an army in shambles (Lambeth, 1995) and is not able to solve its internal conflicts (e.g. Chechnya), so why would it unexpectedly be aggressive towards or militarily blackmail Western Europe? But Russia could play on Western Europe's dependence on its gas as it has recently done with Ukraine (BBC, 29 December 2005).
The third reason can be debated on the same ground as the first. We will later discuss the legitimacy of resorting to nuclear weapons in the face of biological or chemical weapons.

Both France and the UK cannot define their vital interests without taking into account their European neighbour's – this being the process of Europeanisation of French and British deterrence. In addition, if Europe wants a real defensive identity, it needs to articulate its nuclear doctrine in the European framework. Integrating France's and UK's nuclear weapons would legitimise such weapons. We can assume that this is precisely what these countries are looking for, though they will not publicly admit it (Boniface, as non-politician and diplomat, writes it, but I could not find any official statement to confirm it in France or in the UK).

2.4 Vision of the United-Kingdom

2.4.1 National Defence strategy

The UK developed its nuclear arsenal more or less for the same reasons as France, so there is no surprise when noting similarities in their doctrine. The UK is on the minimum level: “The Strategic Defence Review has conducted a rigorous re-examination of [British] deterrence requirements. This does not depend on the size of other nations’ arsenals but on the minimum necessary to deter any threat to our vital interests”, reads the Strategic Defence Review (SDR, Chapter 4, July 1998), as confirmed in the 2003 Defence White Paper: “For our own part we will maintain only the minimum nuclear deterrence required to deter threats to our vital interests.”

According to the Defence White Paper (December 2003: 4-5), European security remains central to the UK’s national interests, as previously expressed in the SDR. “More widely the UK has a range of global interests including economic wellbeing based around trade, overseas and foreign investment, and the continuing free flow of natural resources”, in addition to “responsibilities for 13 overseas territories”. Indeed, “[The UK’s] security and national prosperity depend upon international stability, freedom and economic development”. Moreover, “the UK seeks to act as a force for good by strengthening international peace and stability”. To achieve this aim the UK will work “alongside our EU and NATO allies, as ”a vital component of our security policy”. These ties make it consider any aggression towards a member of NATO as a threat to its vital interests (Rifkind, 1992: 95-103).

The UK still relies on nuclear deterrence because the world is still dangerous: “The continuing risk from the proliferation of nuclear weapons, and the certainty that a number of other countries will retain substantial nuclear arsenals, mean that our minimum nuclear deterrent capability, currently represented by Trident, is likely to remain a necessary element of our security” (*in* “Delivery Security in a Changing World, Defence White Paper”, December 2003).

Earlier than in the case of France, terrorism is given as a reason to carry out a nuclear strike: “The New Chapter highlighted the need to be prepared to prevent, deter, coerce, disrupt or destroy international terrorists or the regimes that harbour them and to counter terrorists’ efforts to acquire chemical, biological, radiological, and nuclear weapons” (*in* “Delivery Security in a Changing World, Defence White Paper”, December 2003).

Nuclear weapons will be used in the event of an attack with any WMD and not just nuclear weapons, as exposed by Geoffrey Hoon, Secretary of State for Defence, interviewed by Jonathan Dimbleby: “Let me make it clear the long-standing British government policy, that if our forces, if our people were threatened by weapons of mass destruction, we would reserve the right to use appropriate proportionate responses which in extreme circumstances include the use of nuclear weapons” (Jonathan Dimbleby programme on BBC, Sunday 24 March 2002).

Nick Ritchie, researcher in the field of nuclear arms control and disarmament with the Oxford Research Group (an independent organisation that conducts research into the nuclear weapon decision-making process), lists several other reasons for the UK to maintain a nuclear arsenal: “Nuclear policy is fraught with political danger”, and “Nuclear deterrence works”, therefore “British national security depends on maintaining strong sovereign military defences”, notwithstanding Britain’s global status which would be reduced by removing its nuclear deterrent.
This is an opinion also shared by Lee Willett, of the Royal United Services Institute military think-tank. “We do not know what the future will hold. While others have nuclear weapons, the only thing that will deter a nuclear weapon is a nuclear weapon”, he said (Agence France Presse, 15 March 2006).
Moreover, “It is vital to British national interests to maintain nuclear parity with France”, Ritchie adds, backed by Sir Michael Quinlan, a former top Ministry of Defence official: "To leave the French as the only people with [a nuclear deterrent], I think, would twitch a lot of very fundamental historical nerves”, he said (idem).

2.4.2 British specificity

The UK has special ties with the US. Since 1958 and extended in 2005, the Kingdom has enjoyed an Agreement of Mutual Defense with the USA and holds NATO bases. It is therefore dependent on American technology and its umbrella, and influenced by its deterrence doctrine.

2.5 Vision of China

2.5.1 Origin of its nuclear weapons programme

Although Beijing's public attitude toward nuclear weaponry between 1945 and 1954 was generally disparaging, in October 1951, when the Korean War was going badly for the

Chinese, a Xinhua statement indicated that Beijing's view of nuclear weapons was not as derogatory as it often appeared to be:

> Now we understand more clearly that only when we ourselves have the atomic weapon, and are fully prepared, is it possible for the frenzied warmongers to listen to our just and reasonable proposals[22].

The Quemoy crisis of August-September 1958 made it clear that the Soviets would refuse to back the Chinese in any risky situation. Chinese leaders understood that while the US might be willing to use nuclear weapons if pressed too hard, the Soviets were unwilling to take similar risks in protecting China. This threw back into question the Chinese reliance on the Soviet nuclear shield.

Chinese military leaders realised that until China had its own nuclear weapons, they could find themselves dependent upon Soviet assistance in any Sino-US confrontation and had constraints on their foreign policy. Moreover, Sino-Soviet relations began to deteriorate as early as 1956. That year, the Soviet party chief, Nikita Khrushchev argued that atom bombs were no respecters of class laws, that conflicts could escalate, and that one should not insist on violent revolution to the point of courting disaster, which contradicted Mao's "paper tiger" theme. Moreover, the strategic "massive retaliation" concepts of the Eisenhower administration contained, in Chinese eyes, alarming features.

The decision of the Chinese to develop their own nuclear-weapons programme must have been made prior to 1958, possibly as early as 1956. The incentive to develop nuclear weapons in China is similar to that of France: to gain international status (pride) and to enhance national security.

China benefited from Soviet technical assistance until 1960, but then continued development very much on its own. It culminated in a successful nuclear test in October 1964 at Lop Nor. In announcing this test, the Chinese promulgated a "no-first use" policy, reiterated Mao's atom bomb-paper tiger theme[23], repeated China's advocacy of complete prohibition and destruction of all nuclear weapons, condemned the Limited Test Ban Treaty of 1963 as a "big fraud to fool the people of the world," and stated that "China's aim is to break the nuclear monopoly of the nuclear powers..." In an article on 10 May 1965 Lo

[22] Quoted by FAS, http://www.fas.org/nuke/guide/china/doctrine/overview.htm.
[23] Mao as early as August 1946 asserted that "the atom bomb is a paper tiger used by the US reactionaries to scare people".

Jui-ching, then Chief of the General Staff, wrote: "Our principle is: We will not attack unless we are attacked, if we are attacked we will certainly counterattack."

2.5.2 Current position

Although almost nothing has been written or voiced by Chinese leaders which could indicate the formulation of a definitive nuclear strategy, these principles have remained the same until now. In fact, “China has not defined its nuclear doctrine very clearly, partly because the leaders want to keep secrecy to maintain minimum deterrence, partly perhaps to keep our nuclear option open” (Zhengfei, 2006).

These principles include nuclear disarmament. Already in 1971, China rejected a Soviet proposal to attend a conference with the US, the USSR, China, Great Britain, and France, to discuss the question of nuclear disarmament claiming that it had consistently stood for the complete prohibition and thorough destruction of nuclear weapons and had declared on many occasions that under no circumstances would China be the first to use nuclear weapons. It urged Moscow and Washington to openly agree not to be the first to use nuclear weapons at any time or under any circumstances and called for the dismantling of all nuclear bases and stockpiled weapons on foreign soil.

A second principle is drawn from the Korean War experience: the Chinese perceived that conventional conflicts need not escalate into a nuclear war. Therefore the Popular Liberation Army's strategic considerations call for avoidance of wars, especially major ones. The thinking also is that even if a war cannot be avoided, there should be efforts to keep it from becoming a major nuclear one or even a medium-scale non-nuclear one.

The third is the emphasis put on defence. In an address at the US Army War College, Lieutenant General Li Jijun, Vice President of the Academy of Military Science, said that “China's strategy is completely defensive, focused only on deterring the possibility of nuclear blackmail being used against China by other nuclear powers.” (1997: 7). Moreover, since Taiwan is under the US protection, China is reinforced in its defensive position. As a result, China's doctrine has been characterised as “anti-nuclear blackmail.” Representative of China's views on this issue, in 1983, Deng Xiaoping said: “China only wants to adhere to this principle: we must have what others have, and anyone who wants to destroy us will be subject to retaliation.”

Finally, the Chinese learned from the Cuban missile crisis (1962) the consequences of serious strategic inferiority. Therefore, while working and arguing in favour of nuclear disarmament, China has also tried to maintain a certain strategic parity with the United States, which is its main perceived threat. There is a 'certain parity' because over the past 40 years China's nuclear forces have remained at relatively modest levels. The Chinese doctrine calls for minimum force and autonomy. Today, being still an explicit US target, China has approximately 400 nuclear weapons and various delivery platforms, mostly short- and medium-range missiles. China has not officially released details about the size or composition of its nuclear arsenal but it is said to possess approximately 85 nuclear-capable land-based ballistic missiles; no more than twenty have sufficient range to target the continental United States. The U.S. Department of Defense estimates that the number of Chinese ICBMs capable of hitting the United States "could increase to around 30 by 2005 and may reach up to 60 by 2010" (Defense Department: 2003, 31) which is still very low compared with the 550 US ICBMs.
Despite this quantitative inferiority, China invests in quality and makes up for its delay in space conquest. It plans to send a human being to the Moon by 2010 and to set up a permanent base by 2030. Since space is also an American target, the US plans to set up a permanent base on the Moon by 2020 and to extract helium-3, a material invaluable for fusion, very rare on Earth but abundant on the Moon. Russia has similar plans. However, China denies targeting helium-3 (People's Daily Online, 2004).

To summarise, China adopted nuclear deterrence because of others but is intrinsically against nuclear weapons and fears escalation. It is also disturbing to read China wants to get protected from nuclear blackmail from Western countries, while the West gets protected from nuclear blackmail by China. Is this a trick of enemy images? These behaviours are irrational.

2.6 Vision of nuclear deterrence by newcomers

The term newcomers refers to non-official nuclear states according to the NPT, i.e. countries that joined the nuclear club after 1968: Israel, India and Pakistan. Such countries did not sign the NPT. The reasons for these countries developing a weaponisation programme are mainly regional. Consequently, their deterrence is not general but regional.

The French Institute of Hautes Etudes de la Défense Nationale (IHEDN) defines a strategy of "aggressive sanctuarisation**"** aiming at protecting oneself from any external power's intervention in an internal conflict or beyond its borders thanks to the possession of weapons of mass destruction: “Some observers wonder about the potential effects of conflicts in Kosovo or Chechnya in countries which note that Western intervention spared Russia, a nuclear power. In a vision of ‘agressive sanctuarisation’, not against a neighbour but against parts of their territory, these countries would then seek to acquire the atomic weapon or any other weapon of mass destruction” (1999).

Political independence, reinforced by a feeling of security, makes it possible to carry weight in international relations. Would Russia be part of the G7 to create the G8 without the bomb? President Putin said himself that the reason why Russia belongs to the G8 is that “Russia was a major nuclear power and couldn't be ignored”, (quoted by Owen Matthews, 2006). Would India ask to be a permanent member of the UN Security Council without the bomb?

Today, for regional leaders, deterrence is used to prevent or limit the efficiency of an intervention, or to intimidate regional allies by convincing them the costs are too high and the power projection is too difficult or ineffective from remote bases (Wilkening & Watman: 33-35).

That the UK possessed the bomb was a strong inducement for France to get its own, which gave ideas to Western Germany, and even Sweden[24] thought about it. In Asia, the Chinese test in 1964 induced India to explode its own 10 years later (China affirmed it put missiles in Tibet aimed at India), which Pakistan had to react to. Similarly, the Israeli bomb could not remain unrivalled in the Middle-East: Iraq tried to get its own thanks to France, at the same time as Egypt and Libya. Consequently, the Iraqi policy inspired the Iranian nuclear policy. There is regional domination, from region to region, like a domino game.

2.6.1 Israel

David Ben Gurion, Israel's first Prime Minister, clandestinely established the programme in the late 1950s to meet the perceived existential threat to the nascent state. To affirm its existence in an Arabic, hostile area, Israel felt the need to impose its presence by compensating for its relatively low birth-rate with military superiority. Israel is supposed to

have about 200 nuclear warheads and the most advanced nuclear weapons programme in the Middle East, though Shimon Peres claimed in April 1963 during a meeting with the US President, John F. Kennedy, “Israel would not be the first to introduce nuclear weapons in the Middle East”, which became the official Israeli nuclear formula (Abdel Azim, 2000). Therefore it officially denies any possession of nuclear weapons, which reinforces its deterrence power, experts say (Beehner, 2006). Even its ambassador to the UN in Geneva, Mr Itzhak Levanon, denied such possession (interview in April 2005), answering our question: “Even *I* do not know".

2.6.2 India

After testing a nuclear device in May 1974, with five additional nuclear weapon-related tests in May 1998, India formally declared itself a nuclear-weapon state. India qualified its test as a “peaceful nuclear explosion”, which is an oxymoron. After the explosion, India announced a voluntary moratorium on further underground nuclear-test explosions, which still is valid.

India officially justifies its nuclear arsenal as necessary to provide favourable conditions to pursue its “primary objective”: “to achieve economic, political, social, scientific and technological development within a peaceful and democratic framework”. Therefore India builds its nuclear policy on "retaliation only" solely against a nuclear attack, within a doctrine of the credible minimum (Draft Report of National Security Advisory Board on Indian Nuclear Doctrine, 17 August 1999).

India’s nuclear policy is very clearly stated by the Ministry of Defence[25]:

> India’s nuclear-weapons capability is meant only for self-defence and seeks only to ensure that India’s security, independence and integrity are not threatened in the future. India is not interested in a nuclear-arms race. This is the rationale behind the two pillars of India’s nuclear policy – minimum deterrence and no-first use. The determination of the profile of this deterrent, including accurate and refined delivery systems, is a sovereign responsibility.

At the same time, the same source insists that “India remains a firm and consistent proponent of general and complete disarmament and attaches the highest priority to global nuclear disarmament.”

In 1949, taking advantage of Indian independence, the US offered to help India to counter the Chinese influence in Asia, but Nehru refused. Later the Indian government changed its

[24] Wayne Hall, 2006; Miller & Ruina, 1997: 161-164.

mind as India's weapons have a double function: providing security against China and a statute of regional power (Lang: 43). The other side of the coin is that since India is fighting with its neighbour Pakistan over Kashmir, Pakistan feels the need to go nuclear too. For both countries, a nuclear war is likely to preserve their national existence. In other words, these weapons are battlefield weapons, as in the 1950s between US-USSR before MAD (Steve Coll, interviewed by Amy Davidson, 2006), and not just political instruments as in the French doctrine.

Today, India accepts nuclear cooperation with the US (July 1995) and with France (February 2006), though both countries claim for the sake of public opinion that the deal is restricted to civilian nuclear energy (Ramana, 2006). But these deals lift prohibitions on selling nuclear fuel and technology, which enables India to buy uranium to fuel its nuclear plants and use its own for military purposes.

2.6.3 Pakistan

Nuclear deterrence is a way to compete with India, to play at the same level. Its nuclear programme dates back to the 1971 war, which Pakistan lost. Zulifkar Ali Buttho initiated the nuclear programme in 1972, even if its people had to "eat grass" (Faruqui, 2006) and held a successful nuclear test in May 1998.

Because Pakistan's minimum deterrent is tied to the Indian's, itself tied to its regional ambitions and tied to China's nuclear ambitions, it costs Pakistan quite a lot of money to maintain, money that it could spend elsewhere[26]. While military expenditure represents 20.3% of the budget, 84.7% of the Pakistani population live with less than $2/day, More than two-thirds of the population aged over 15 cannot read or write, especially women. Child labour is widespread and many children are undernourished. Almost half of the population does not have access to safe drinking water, and approximately 67% lack sanitary facilities (Source: World Bank, ILO, 2005). Its Ambassador to the UN in New York confirmed this view: "We are a nuclear state 'despite us'"[27]. His country has tried to disarm, offered to sign the CTBT with India, etc… but its many attempts at confidence-building measures with India failed, and India refused to sign the CTBT – though it participated in its drafting.

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[25] http://mod.nic.in/aforces/welcome.html

[26] Some in India also share this view. See for instance the article by Jayati Ghosh, "The bomb and the economy" published in India's National Magazine "Frontline", volume 16 - Issue 10, May. 08 - 21, 1999.

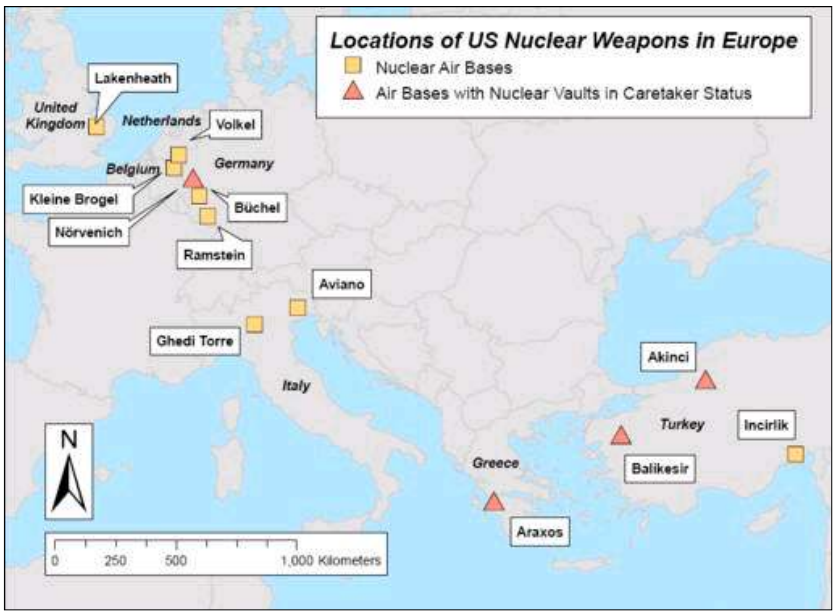
[27] Personal interview in May 2005 of his Excellency Ambassador Jehangir Karamat.

According to Steve Coll (interviewed by Amy Davidson, 2006), former foreign correspondent and currently associate editor at *The Washington Post*, “Pakistan’s nuclear doctrine rests on the idea that they are a smaller state than India, with a smaller military, and that they need nuclear weapons to defend their national existence, their sovereignty. Their generals have said that if, during a conventional war, they feared that Pakistan might no longer be viable, or that its military might be destroyed by invading Indian forces, they would have no choice but to escalate to the nuclear level in order to preserve Pakistan’s national existence. The danger was that neither side understood where that line was, and that India, thinking it was fighting a limited war, might accidentally go so far as to convince Pakistan that it had to escalate to the nuclear level.”

Pakistan, so far the only Muslim nuclear state, is unlikely to risk devastating retaliation from Israel or the United States if it were to attempt to provide nuclear weapons to the Middle East. It is impossible to conceive of any Muslim state declaring that it has an Islamic bomb that would be used to defend the umma against the United States or Israel. The notion of an "Islamic bomb" is now almost thirty years old. But the denuclearisation of Israel would prevent any ‘Islamic proliferation’. Addressing an Islamic conference in Tehran in 1992, the Iranian vice-president, Ayatollah Mohajerani said: "Since Israel continues to possess nuclear weapons, we, the Muslims, must cooperate to produce an atomic bomb, regardless of UN efforts to prevent proliferation" (Hoodbhoy, 2005; Zia and Hoodbhoy, 2006).

2.7 NATO

Despite the collapse of the “biggest threat in Europe”, European countries affirm in the Alliance's Strategic Concept (approved in April 1999) that “The presence of United States conventional and nuclear forces in Europe remains vital to the security of Europe, which is inseparably linked to that of North America” (Art. 42 of). In other words, European countries still need NATO. Virilio quotes Alain Richard, former Minister of Defence, frankly saying “NATO does not please us but it is the only existing tool enabling us to pool our means in real time” (46).



Map3: Locations of US nuclear Weapons in Europe
Source: Hans Kristensen, "US Nuclear Weapons in Europe," Natural Resources Defense Council, February 2005, p. 23. <http://www.nrdc.org/nuclear/euro/contents.asp>

Officially, the main function of the 480 NATO (US) weapons in Europe is political: to express nuclear solidarity among allies, maintain Europe-US unity and maintain US leadership in NATO (Schmitt: 4). Indeed NATO has conventional superiority already, so there is no need to use nuclear weapons to face a conventional attack (Schmitt, 1997: 3). Moreover, there is today no threat coming from the South or the East. For Schmitt, the threat is more likely to be biochemical against an expeditionary Western force. But this means the interests at stake would not be vital, therefore classic coercion would suffice (Schmitt: 3).

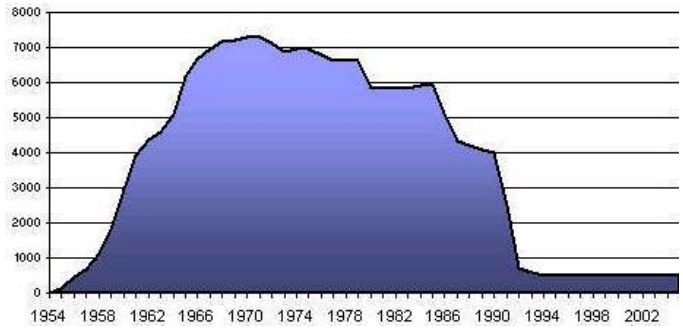


Chart 3: US nuclear weapons in Europe, 1954 – 2005
Source: Hans Kristensen, "US Nuclear Weapons in Europe," Natural Resources Defense Council, February 2005, p. 23. < http://www.nrdc.org/nuclear/euro/contents.asp>

2.8 General overview

There are two schools of thought in nuclear deterrence:
1. The US views deterrence as a strategy from the strong to the weak, based on absolute strength and in combination with classic weapons. Suppressing nuclear weapons would not suppress the scheme of deterrence, which also relies on massive expedition, air stealth,… (Joxe: 114).
2. For the French, classic inferiority is at the basis of nuclear deterrence to defend vital interests. Nuclear deterrence implies first use, no entering into a war with the enemy and no classic scheme of escalation.

China is like the US and thinks nuclear weapons are used to deter the use of nuclear weapons and they think they can deter an invasion thanks to their massive population. Today, however, the US extends the scope of nuclear weapons to other weapons of mass destruction and to supporting conventional war.
Russia is like France except they call their inferiority “equality”.

The first school is responsible for the excessive arms race and the idea of maintaining a strategy of the strong to the weak against Third World countries. After the Cold War, nuclear states are all in a position of absolute superiority over non-nuclear states. This school is more likely to win over the other because it is more flattering to belong to the “strong countries” rather than to the weak in a Gaullist position. But this is at the root of the rationality of proliferation. The nuclear-weapon states know this and that is why they very much emphasise the “danger of proliferation” because they are at the source of this logic (Joxe: 115; Stenger, 2005).

Nowadays, prestige seeking has become secondary (Labbé, 1993). We have witnessed a phenomenon of deproliferation also in former Soviet countries either because their primary motive was prestige and they realised they could get it differently and more safely (for Brazil and Argentina), or because the context has changed (collapse of the Soviet Union), or under US pressure (as in South Africa).

3 ANALYSIS OF THE OPERATING CONDITIONS FOR NUCLEAR DETERRENCE AND ITS DRAWBACKS

According to Mr Eskandari-Qajar, professor of political science and Middle Eastern studies:

> "The first principle of international relations is that countries seek to protect their interests by whatever means they can. The second principle is that countries do so as rational actors intent on bringing about gain, or if not gain, at least avoidance of loss. These are observable facts of international politics. How countries go about achieving these aims differs from country to country, but the fact remains that countries act this way in their relations with each other. Moreover, most of the interactions between countries in the world are peaceful or, to be more precise, are actions short of war. War and warlike actions are the exception and are rarely engaged in, though it certainly seems otherwise, since war looms so large in our collective psyche." (2006)

In preparation for warlike situations, some countries rely on nuclear deterrence. But like any other means, nuclear deterrence requires that certain conditions be met to operate. We will see what these conditions are and whether they are met in today's world in order to assess the validity of such a choice.

3.1 Criteria of efficiency

Deterrence requires that certain elements be present. The economist Brams states that "Ideally, to deter an opponent, a threat should be both effective and credible. Its effectiveness increases the more damage it causes the player who ignores it; its credibility increases the lower it costs to the threatener to carry it out" (1984: 4). The more efficiency, the less credibility and vice versa.

3.1.1 Conditions

First of all, actors must act rationally, and they must sufficiently share the same normative or rational framework in order to be predictable. Rational behaviour is a calculating, value-maximising strategy of decision, in which individuals decide between alternatives based on self-interest. In addition, it must be possible to inculcate a sense of appropriate behaviour, reinforced by a combination of social pressures and a sense of fair and effective punishment (Freedman: 67). Indeed general deterrence is "about a process of building up norms, to be internalised by individuals, which leads them away from even thinking about certain forms of anti-social activity" (Freedman: 65).

Second, actors must enjoy good persuasive skills, in other words be convincing. This requires two elements: a good communication process and credibility. A good communication process involves a clear definition of what one deters. Actors must clearly state the nature of their vital interests (Freedman: 118; Huth & Russett, 1984). It is then easier to know what one should not do to avoid a crisis. In this connection, we can note that if an actor is vague about its vital interests, it may avoid entrapment (Brockner and Rubin, 1985*)*. The deterrent must also be clear and efficient, which means the sanction must be clearly known by B and efficient as regards B if B does what A does not want him to do. Parties should be able to make specific and limited threats, in other words to incapacitate people but be retributive (Freedman: 63, 64). Efficiency means the deterrent signals are sent, received, understood and considered to be of sufficient magnitude by the challenger to be effective (Wilkening and Watman, 12).

Credibility is indeed fundamental to deter as well as to compel (Freedman 126). It requires military capability to carry out the threat (ability to inflict costs) and the will to do so – or at least the opponent must believe the threats would be enforced ("Essentials of Post Cold War Deterrence", 1995: 5). The intent is linked to whether the issues at stake are worth the effort, and is based on how past commitments were honoured (reputation, capacity demonstrated). The military capability is based on the devices' technical value (potential of destruction, reach, capacity of survival, power of penetration,…) and on the plausibility of their use (stake,…) (Delmas 15). As early as 1765, Cesare Beccaria advised a quick and certain punishment to be effective (1993). Deterrence is also linked to the quality of the opponent's ability to resist enforcement and retaliate in kind. For the US, deterrence is efficient if it shows resolve to defend interests (regional interests are frequently less vital) and if it has an *overwhelming* capability to inflict cost (asymmetry in capabilities), so it needs to "dramatise the threat" (make believe everything is important) (Wilkening &

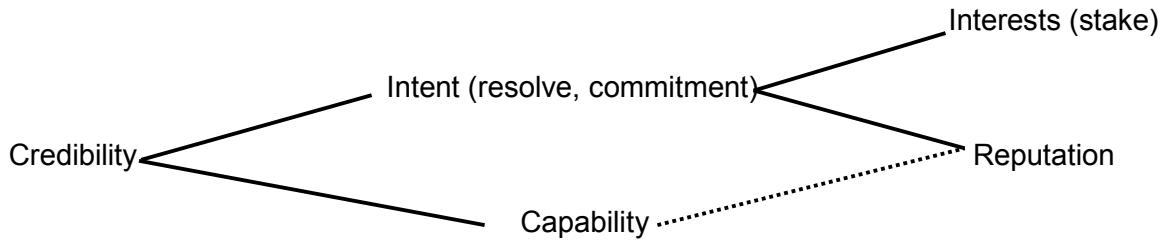


Figure 1: Basic Component of Credibility according to RAND, 1995

Watman : iii, 6-7). This is a difference from other nations' doctrine for which credibility is maintained even with minimum military capability (France, China, India, UK, Pakistan).

Third**,** the notion of deterrence is related to the retaliation force's invulnerability. This means one must be able to resist an initial strike and still make a credible threat of unacceptable social destruction with a second strike (retaliation capacity). Therefore even if A strikes B, A knows its attack will not remain unpunished, which guarantees B efficient deterrence. In McNamara's words, credible deterrence needs "Immunity to aggression in addition to immunity to a defensive nuclear network so that our retaliating strike can reach its target" (quoted by Delmas: 66). This capacity is obviously not necessary for extended deterrence.

Now how to measure the right size of an arsenal? For Freedman and most experts, it is "Extremely difficult to think of ways to assess the size and composition of nuclear arsenals". McGeorge Bundy thought "as long as each side has thermonuclear weapons that *could* be used against the opponent…, existential deterrence is strong" (Freedman 18). The default criterion set up by McNamara of 400 deliverable warheads is now indeed considered as excessive. Deterrence "does not need the absurd quantity of nuclear weapons amassed by the superpowers to implement its function", asserts Boniface (48), as a good French theorist in favour of minimal deterrence. His view is now shared by some Russian commentators who consider 100-150 deliverable warheads sufficient (Sokov: 27). But others support more drastic reductions of arsenals. The hawk Richard Perle, former chairman of the US Defense Policy Board, believes that some dozen warheads in store are enough to make the US and Russia invulnerable (Rosenfled, 1992). But for some military, these political experts or leaders' opinions do not go far enough. A Generals' and Admirals' Statement (1996) calls for complete and general phased nuclear disarmament, an alternative backed by Michael Brown in a study for the Henry Stimson Center (1996).

3.1.2 Consequences

Nuclear deterrence is founded upon the flawed assumption that mutually assured destruction forces states to act rationally in times of crisis. Indeed, "Different actors have different views about what constitutes rational behaviour" Freedman underlines. For deterrence to work, "A must persuade B to act to serve the interests of them both but according to the dictates of *B*'s rationality" (my italics) (Freedman: 28), which means A must build its deterrence not according to its own thinking but according to the thinking of

the actor it wants to deter. An example was given by the US Ambassador to Japan, Joseph C. Grew, when he assessed the possibility of an attack on Pearl Harbor: "National sanity would dictate against such an event, but Japanese sanity cannot be measured by our own standards of logic" (in Wohlstetter': 1962, 354). At this level, it is important to point out with the STRATCOM (1995) that what may work as a deterrent for one country may not be adapted for another target. Is it feasible to build a deterrent adapted to every potentially hostile country?

Moreover, even if A and B share the same framework of rationality, B may misinterpret the signals sent by A; even if B understands correctly, it may be unconvinced that A will implement the threats; and even if B is convinced, he may still believe the costs will outweigh the prospective gains. A may be inarticulate and B confused. There may be complete incomprehension of the risks (Freedman: 28). That is why it is so important to clarify peripheral and central interests and re-evaluate interests for they can change over time.

Besides, drawing a line between persuasion and provocation is difficult, as the experience of the Cuban missile crisis proved (Cimbala 238-239). But it is essential to solve the crisis without escalation to a nuclear war. Therefore parties must have measured objectives, and balance these against their desire to assert diplomatic and strategic positions (Cimbala 260). Furthermore, military provocation unrelated to initial demand must be banished (Cimbala 2) in order to dismiss the risk of being misread as an imminent threat – Cimbala argues that World War I broke out because some actions were interpreted as military provocation. On the contrary, actors must give reassurances and remain open for negotiations or retreat otherwise it is counter-productive (Cimbala: 2, 65).

As for reputation, this is developed through the repeated application of force that eventually serves to have a deterrent effect. Occasional wars may serve this aim, notes Jonathan Shimshoni talking about Israel (1988). However, according to the RAND Institute (16), going to war to save face is a poor reason though it is the best way to preserve one's interests in the future. Since every act bears significance for the creation of expectations of future performance, "How one deters now will have an impact on how much one might have to deter in the future" (Freedman 52). This forces states to cultivate an image of recklessness and irrationality (Ravenal, 1982: 28). This may lead to getting involved in a

war just to “save face” in Erving Goffman’s words[28]. For Tom Schelling, face is indeed “one of the few things worth fighting over” (1996: 194). Stepping back on one thing might indicate a possibility of stepping back on something else. However there is no evidence (Huth, 1988: 13) and no direct correspondence between behaviour and reputation (Mercer, 1996). Reputation is specific to circumstances (Wilkening & Watman : 16). It follows that, the US is currently contemplating using nuclear weapons just to show its readiness to use them and break a taboo. The Australian nuclear expert John Hallam mentions that "documents produced by the US joint chiefs of staff actually state that while the use of nuclear weapons by the US would likely lead to universal condemnation, the US should consider doing just that 'in order to demonstrate intent'." (Naughton, 2006). Nixon was already in favour of cultivating a ruthless, irrational character to increase credibility, Wilkening & Watman remind us (16) (also in Naughton, 2006).

Indeed, although rationality is an essential ingredient of nuclear deterrence, some argue that irrational behaviour might be even more efficient. In 1995, the Strategic Council Group STRATCOM published a report entitled “Essentials of Post-Cold War Deterrence”. Its authors stress the need to stop presenting themselves as too rational: “The fact that some elements may appear to be potentially 'out of control' can be beneficial to creating and reinforcing fears and doubts in the minds of an adversary's decision makers. This essential sense of fear is the working force of deterrence. That the US may become irrational and vindictive if its vital interests are attacked should be part of the national persona we project to all adversaries.” (8)

This is not behaviour confined to the field of nuclear deterrence. In a book published first in 1980, Pascal Boniface listed the ways dictators could get what they want. One option was pretending to be mad, illustrated by the North Korean leader. When you are afraid of how someone might react if dissatisfied, you are likely not to bother him. But this book was directed at weak countries which could replace a policy of power with a policy of nuisance.

However, a policy of irrationality undermines the foundations of any international treaty that requires confidence among governments. How can one feel secure vis-à-vis a country that can get irrational when it feels threatened? There can be no rational framework for negotiations, and not enough confidence among political leaders. This leads to anarchy and chaos.

[28] "Face" is the mask shown by the social actor to its partners during social interaction. "Saving face" is avoiding appearing in one's nudity.

3.1.3 Conventional versus nuclear deterrence

By replacing conventional weapons as deterrence, nuclear weapons changed the rules. First, while coercive and destructive aspects of fighting are products of the same force in conventional war, the two aspects are separated in nuclear deterrence and the coercive power of nuclear weapons is thought to reside in their skilful non-use (Cimbala 13). Second, retaliatory punishment is no longer part of the bargaining and negotiation between adversaries as in conventional warfare. Third, quoting the famous game theorist Von Neumann's report published in 1955, Poundstone writes that with one blow, nuclear weapons decide the outcome of the war and cause more destruction in a very short time (185). Nuclear weapons forced greater reliance on pre-planned plans induced to deter, to be non-provocative and to avoid escalation for the consequences would be more disastrous than in a non-nuclear world.

Countries located amidst the belligerents play a role in conventional warfare by providing additional time and opportunity to rally their forces. But nuclear weapons cause huge destruction in a matter of minutes thanks to their delivery systems. Their role is then replaced in nuclear warfare by redundancy of other weapon systems. Additional nuclear weapons are also used to decrease the sense of vulnerability to surprise and contribute to stability. But too many deployed weapons are an inducement to preemption (Cimbala 134).

Virilio (1999: 51-54) notes that nuclear weapons make war different because the strategic offensive has nothing to do any longer with massive invasion and extermination of civilians, but with a global arsenal and new weapons, space, and outer-space weapons without ground invasion. According to him, total deterrence is no longer just nuclear but is one which paralyses the entire society's life, being also social, eco-strategic and monopolistic. Instead of exterminating life on earth, we have atomic and computing weapons able to paralyse totally the life of societies (54). Deterrence relies less on the threat of WMD than on the integral accident of the energetic and cybernetic ecosystem (ex: bombs cutting electricity, viruses, bugs,…).

However, nuclear weapons have influenced "classic warfare". The conventional strategy was 'nuclearised' in Gulf War 1: the idea to quickly and decisively eliminate the adversary's command structure is the outcome of the influence of the nuclear strategy in conventional war planning. There are "aim points", places that must be targeted (e.g.

command systems). There is however no total societal destruction in order to enable war termination. A nuclear war leaves the power intact, contrary to conventional wars where the power is targeted and often destroyed. Because parts of the system remain in place, the power cannot be redistributed as in hegemonic wars (Cimbala: 178-187).
By making nuclear weapons "just another weapon in our arsenal", to quote Peter Weiss, President of the Lawyers' Committee on Nuclear Policy, the US is "extinguishing the line between 'conventional' weapons and sui generis nuclear weapons" (quoted by Perlman, 2001). As the US expert Michel Chossudovsky (2006b) pointed out, "The distinction between tactical nuclear weapons and the conventional battlefield arsenal has been blurred." According to another expert, Hans Kristensen, "It's a package (of nuclear and conventional weapons). The implication of this obviously is that nuclear weapons are being brought down from a special category of being a last resort, or sort of the ultimate weapon, to being just another tool in the toolbox". He goes on by saying "The military manuals state that this new generation of nuclear weapons are 'safe' for use in the battlefield. They are no longer a weapon of last resort" (2006).

The US attempts to develop low-yield nuclear weapons to make their use as battlefield weapons acceptable. True, low-yield weapons generate less destruction, thereby making them more 'usable', but this does not deprive them of their radioactivity. Whatever their yield, nuclear weapons remain weapons which irradiate every living being and modify DNA. They irradiate the environment for thousands of years; they cause birth defects; they make people ill for the rest of their lives, well past the end of the war.
If states choose now to rely on low-yield nuclear warheads on credibility grounds, wouldn't it be in fact wiser to fully give up reliance on nuclear devices and stick to conventional deterrence? Wouldn't conventional weapons suffice? According to the RAND Institute, conventional weapons are indeed more credible for their consequences are not as long-lasting and deep as nuclear weapons', but they are less-efficient and more expensive (1995: 44). Further, financing one kind of weapon means under-financing the other and vice versa (Canberra, 1997: 22). So as long as countries go on funding their nuclear arsenal they cannot plan total reliance on conventional weapons. Since conventional weapons are more credible precisely because of their limited destructive power, they deter just as much.

3.1.4 First-use or no-first-use?

Does deterrence imply declaration of first use? During the Cold War, Western countries were so afraid that first use was considered necessary to "keep the Soviets at bay" (McNamara 30). The core idea was using nuclear weapons to make up for conventional weakness, hence there could not but be a first-use policy, as confirmed by the Canberra committee (45). But non-Western nuclear states do not support the same position.

Today countries justify their first-use policy by pointing at the current threats, in the form of weapons of mass destruction, or just to do as the neighbour does? However, retaining the right to use nuclear weapons first in any conflict scenario impedes nuclear non-proliferation efforts by legitimising possession of, and attaching a high political value to, nuclear weapons. It also invites proliferation of chemical and biological weapons as readily obtainable "force-levellers" to deter nuclear-weapon state interference. A no-first-use policy of all states would decrease tensions and help manage emerging conflicts.

US: first-use

The US has never endorsed the policy of “no first use”. It has had for decades the capacity to absorb a first strike and inflict unacceptable damage on the aggressor, which is the foundation of the American nuclear deterrent (McNamara, 2005: 29-30). Today, the RAND Institute asserts there is no need to declare first use now for the US homeland is invulnerable to the new threats (regional powers owning nuclear weapons). But first use is required to cope with threats of WMD and to support conventional forces abroad threatened with annihilation due to superior local forces (28-31).

Russia: first-use

Russia renounced to no first use in 1993, probably to take into account the end of the Cold War. But the 1999 doctrine provides for using nuclear weapons first to deter a use of WMD, copying the US (Sokov, 25), and in response to a conventional attack to make up for its conventional weakness.

UK: first-use

To quote the UK Secretary of State for Defence Mr Hoon: “A policy of no first use of nuclear weapons would be incompatible with our and NATO's doctrine of deterrence, nor would it further nuclear disarmament objectives. We have made it clear, as have our NATO allies, that the circumstances in which any use of nuclear weapons might have to

be contemplated are extremely remote. Our overall strategy is to ensure uncertainty in the mind of any aggressor about the exact nature of our response, and thus to maintain effective deterrence" (4 April 2005).

France: **first-use**

Although French deterrence is based on non-use given that the aim is not to win the war but to avoid it (Boniface: 63, 121, 128), France has always had a first use policy. Choosing the opposite is "unacceptable" (De Villepin: 35), and "would ruin the concept of deterrence" (Boniface: 19).

This is not a paradox for French experts, political leaders and military planners, and they find no problem of credibility, as previously explained.

NATO: first-use

The 1999 review of the NATO Strategic Concept reaffirmed a continuation of the doctrine of first-use of nuclear weapons.

China: no-first-use

China has consistently stated that it will never be the first to use nuclear weapons. According to China's 1998 White Paper on national defence: "From the first day it possessed nuclear weapons, China has solemnly declared its determination not to be the first to use such weapons at any time and in any circumstances, and later undertook unconditionally not to use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones."

China has even been at the forefront of international efforts to get other countries to adopt a No-First-Use (NFU) policy. In September 1994, China concluded a de-targeting and no-first-use (NFU) agreement with Russia and in June 1998 China and the US agreed not to target nuclear weapons at each other. The agreement was called a "non-targeting" accord. For many years, Beijing has insisted that such an agreement includes a mutual NFU pledge which the United States rejected. Some US analysts have speculated that Chinese leaders backed off such a linkage because Beijing recognised the political impossibility of getting a no-first-use commitment from the US (source: Nuclear Threat Initiative, 2003).

India: no-first-use

Since "The fundamental purpose of Indian nuclear weapons is to deter the use and threat of use of nuclear weapons by any state or entity against India and its forces", "India will not

be the first to initiate a nuclear strike, but will respond with punitive retaliation should deterrence fail" (17 August 1999, Draft Report of National Security Advisory Board on Indian Nuclear Doctrine). The same document asserts that "the very existence of offensive doctrines pertaining to the first use of nuclear weapons and the insistence of some nuclear-weapon states on the legitimacy of their use even against non-nuclear-weapon countries constitute a threat to peace and stability".

Pakistan: first-use

To the question "Why has Pakistan not accepted a 'no-first use' of nuclear weapons agreement with India?", in the FAQs on the Jammu & Kashmir dispute on the website of the Permanent Mission of Pakistan to the UN, New York[29], we can read the following answer: "Pakistan is committed to a more comprehensive and universally accepted commitment – non-use of force or threat of force – than what India is offering – non-first-use of nuclear weapons". Referring to the Cold War, the Mission continues: "NATO never accepted a no-first-use agreement with the Soviet Union. Such an undertaking is neither stabilising nor verifiable". Basically, India's offer is below Pakistan's expectations: "If India is serious about averting conflict and promoting peace in the region, concludes the mission, it should confirm its commitment to the purpose of non-use of force and accept Pakistan's long-standing offer for a No-War Pact to India aimed at eliminating all possibilities of conflict in the region".

It is surprising to note that the richest countries, with the best armies (US, UK, France,…) find it essential to draw their gun first, whereas those with relatively weaker armies (India, Pakistan,…) adopt a more moderate and non-provocative stance. Is it truly sensible to retaliate with nuclear weapons faced with less harmful weapons such as chemical or biological weapons, or faced with a conventional attack that they think they cannot cope with despite their high military budget?

This debate should not overlook the question of legality of first use. A nuclear strike must be proportionate to be valid, that is to say it is legitimate only in retaliation for a nuclear strike, which excludes de facto retaliation against biological or chemical weapons, despite several nuclear doctrines (US, UK, France) which explicitly recommend nuclear use in case of biological or chemical attacks. It is both legitimate and legal to demand a no-first-use policy (Burrough, 2006)

3.2 Dangers of nuclear deterrence

Risks are increased with nuclear weapons: “Mistakes are too expensive”, as McNamara wrote (2005: 34). An inadvertent escalation is hazardous, as being subjected to nuclear blackmail, like the potential dispersion of long-range missiles firing WMD.

Further, Western political leaders expressed their concern at the 1994 NATO Summit at seeing nuclear weapons falling into Third-World countries’ hands (also expressed by Cimbala: 190) as if wisdom was a function of development and wealth. The Weapons of Mass Destruction Commission chaired by Hans Blix, former IAEA inspector in Iraq, shared this opinion in its report entitled “WEAPONS OF TERROR: Freeing the World of Nuclear, Biological and Chemical Arms” on 1 June 2006: "So long as any state has nuclear weapons, others will want them. So long as any such weapons remain, there is a risk that they will one day be used, by design or accident. And any such use would be catastrophic.... The Commission rejects the suggestion that nuclear weapons in the hands of some pose no threat, while in the hands of others they place the world in mortal jeopardy. Governments possessing nuclear weapons can act responsibly or recklessly. Governments may also change over time.” (60, 61)

There are five main dangers that can be classified as follows:

3.2.1 Misinterpretation

There are precedents for misinterpretation: Cimbala claims in his book that misperception and miscommunication led to WWI (1994). Threat perception is indeed very subjective, and with nuclear weapons, the consequences are worse. Where can misinterpretation lie?

Defending or protecting oneself may be interpreted as getting ready to attack or as provocative. “A mobilisation plan designed for deterrence… may defeat itself by provoking other states to attack", Cimbala warns (122). This error is easy to make since there is nearly no difference between offensive and defensive weapons. The capacity for hard-target and prompt response strikes in retaliation appear as first strike capabilities or aspiring strategies (86). Even the name of the US missile defence is misleading. According to Noam Chomsky, “US planners and potential targets agree that missile defence is a first-strike weapon, intended to provide more freedom for aggression” (2005: 29).

Nevertheless, having the *capacity* to defend oneself and hence to attack does not mean the *intention* to attack. Countries should beware of the signals they send about their intentions when they deploy a capacity that is more than necessary to achieve deterrence

[29] http://www.un.int/pakistan/currentsituation.html

(Cimbala 91) and they should be careful to balance the requirement for survivability against the equally desirable objective of a non-provocation crisis (87).
Another cause for concern lies in SLBMs. SLBMs are chosen as second strike weapons because they cannot be destroyed in a first strike and guarantee the famous retaliation strike. But they can be close to coasts, reducing the time between detection and arrival: what is defensive for A can be provocative to B. Because of their high degree of survivability, they should not be on hair-trigger alert.
This leads us to the security dilemma. As defined by Robert Jervis (1985) and Bouchard (1991: 17-23), under conditions on international anarchy, a state's increased security may reduce the perceived or actual security of others, all the more so since offensive strategies cannot be distinguished from defensive, and the offence or defence is assumed by leaders to have relative advantage in war. Therefore it encourages preemption and causes systemic instability.
There are solutions to avoid misinterpretation. Lebow advises strategies of reassurance (2001) and Stephen Rock strategies of appeasement (2000) defined as "policy of reducing tension by removing the causes of conflict and disagreement", but it does not work if it is part of the adversary's strategy.

Avoiding provocation can be interpreted as a weakness, especially in extended deterrence (Cimbala: 59). For instance, the Soviets' wish to get out peacefully from Cuba was perceived as a weakness. Arthur M. Schlesinger junior, historian of the Kennedy era, describes the moderation of the Soviets not as a way to calm down and as peaceful conflict management but as "the [position] of a man who *begs* us to help him to get out of a tight spot" (quoted by Poundstone: 278, my italics).

Signals sent by technical appliances may be misinterpreted. Radar and other material give raw signals, for instance a plane, but do not say if it is civilian, for scientific research, or if it is a bomber. False signals like a flight of geese have also led to the brink of the use of nuclear weapons (Cimbala 102). Military signals are notoriously ambiguous, and the difficulty of their interpretation grows in the psychological intensity of crisis (Freedman 28). Several cases have occurred of signals which could have triggered a nuclear war: an American U2 was detected as flying over the Soviet territory in October 1962 (Cimbala 244); Korean Air Line flight 607 was shot down by Soviets who thought it was a bomber in September 1983 (Cimbala 113); a US training tape simulating a Soviet attack was played

and taken for reality; and other false warnings have occurred (Cimbala: 102, 226; Freedman: 18,19).

3.2.2 Escalation

There are two models of escalation control. Deliberate escalation is voluntarily 'going to the brink' (i.e. to make escalation happen) while expecting to maintain control over the events and using the fear of escalation as a bargaining tool against the adversary. When the risks are not deliberate but autonomous, the literature calls this 'inadvertent escalation'. It can result from unexpected interaction between two forces for which the rules of engagement have been prescribed without sufficient attention to the problem of escalation control (Cimbala 64), from "accidental causes" or can have more to do with organisational rigidity (Ball, 1985; Blair, 1985; Brackett, 1983; Steinbruner, 1985). B may perceive A as insensitive to the inadvertent risk. Playing on escalation as on brinkmanship strategies has its delayed risks, not necessarily controllable to unilateral advantage (Cimbala: 7).

Intensification of a crisis. By deploying many weapons, war may start; not as a premeditated attack but during a crisis that intensifies over weeks or days (Cimbala, 134-). Similarly, the temptation of a quick victory is a major cause of wars; it can contribute to inadvertent escalation and undermine crisis management. Attributing hostile intentions also intensifies a crisis, and all the more so with nuclear weapons which are more destructive. To give an example, the US was sure of a Soviet invasion from Cuba (McNamara: 33) and this belief could have led to a disastrous policy in that the Cuban troops might have chosen to use their nuclear weapons instead of losing the battle (Cimbala: 240-1). Defining the conflict as a win-lose situation tends to escalate conflict (Deutsch & Smith, 1984).

Moreover, as we have already said, tactical weapons facilitate escalation, from conventional to nuclear war (Delmas 68), and the risk has increased with the development of mini-nukes (battlefield, low-yield weapons). Furthermore, as already discussed, nuclear weapons may induce preemption, especially MIRV (Delmas: 70).

When countries have escalation dominance, in other words when they can prevail militarily in any foreseeable threshold engagement or can always escalate to the same or higher "rungs of the escalation ladder" in RAND's words (41), political leaders may use escalation as a tool of conflict management to coerce the other party to give in out of fear of worse consequences. Brezhnev's threat of intervention in the October 1973 War between Israel and Egypt and Syria, and the American overreaction could have led to inadvertent escalation from a crisis to a war (Cimbala 280).

To save face. We have already explained that a country may get involved in a conflict just to 'save face' and/or to forge itself a reputation and increase its credibility.

3.2.3 Inducement to proliferation and the arms race

Deterrence relies on the terror of a first strike (massive retaliation) or on the statistical terror of a second strike (graduated retaliation). It is based on superior destructive power, even for countries like India or China which claim their huge power is just for defensive purpose, a position backed up by a no-first-use policy.

Whether nuclear weapons are clearly used to support the rule "might is right" or are claimed to be only defensive, they contribute to global instability because any power imbalance is unstable (Perlman, 2001; Labbé, 1993). Talking about the US, Maguire (2006) stresses that "A doctrine of superiority that relies on nuclear weapons, missile defences and dominance in space could create enormous uncertainties, instabilities and risks for international security that could undermine even the national security of the US". Generally speaking, military superiority is as dangerous as inferiority (Deutsch & Brewster, 1984). Today, 96% of nuclear weapons belong to only two countries: the US and Russia (Norris & Kristensen, 2002: 103-104).

The US Academy of Science states in a 1997 report, "The Future of US Nuclear Weapons Policy", that nuclear weapons contribute to "increased tensions" and "stimulate the arms race" and "affirmation by some countries of the need and right to enjoy a nuclear deterrence can encourage other countries to claim the same need and same right". Meanwhile, the US which had full spectrum dominance in the early 1990s enjoys today, as Jack A. Smith explains (2006: 49), a "new type of 'full-scale dominance' over terrorism

which focuses on special operations, special military forces, an electronic battlefield, ground and air robots, communications and surveillance mastery, control of the skies and space, political and economic subversion, sanctions, assassinations, a worldwide propaganda apparatus, and, now, the pièce de résistance — precision nuclear attacks when desired."

But no one will let the US dominate the world. While the US debates about how to use nuclear power to deal with threats, the rest of the world debates about how to cope with American power. The Russians have just designed the Topol-M missiles that can evade the NMD – not yet fully operational. Reacting to the US doctrine of pre-emption, Russian President Putin and defence Minister Ivanov indicated they too would adopt the doctrine of 'pre-emptive strike'. Military force would be used if anyone attempts to limit Russia's access to regions essential to its survival. They echo Clinton's doctrine of "unilateral use of military power" to ensure "uninhibited access to key markets, energy supplies, and strategic resources" (quoted by Chomsky, 2005: 27). As we have seen, France has recently adopted a similar position on energy supplies.

As published in *The Times of India* published it on 2 April 1999, "Nations which wish to keep their strategic autonomy and their political sovereignty have no other choice but keeping their nuclear arsenal, developing missiles and trying to improve their military capacity" (quoted by Virilio 16). After all, if it works for others, it must work for them too. In a world where superiority makes law, non-nuclear countries had better get their own weapons to avoid inferiority and being an easy prey, all the more so when you are an explicit target.

According to David Ruppe (2006) "In 2002, North Korea justified its nuclear weapons program by saying it was concerned about nuclear pre-emption and appeared to cite the review [Nuclear Posture Review], which listed that country, Iraq, and the other five noted by Arkin as countries where contingencies could rise requiring nuclear weapons use." Dr Bruno Colson echoes this remark, writing that the first lesson Third-World countries drew from the Gulf War is they must no longer face the US without nuclear weapons (1994).

Balance cannot be achieved with one or a few strong states confronting the rest of the world. Imposing peace by force is like having a quiet neighbourhood because everyone is scared of a gang that reigns through terror. The US Secretary of War Henry Stimson

recognised after the bombing in 1945 that the desire for monopoly triggered an arms race (quoted by Alperovitz, 1995: 145). He who wants to dominate makes enemies: "Invincibility does not exist on our small planet", the Kurtz Institute of Peacemaking reminds us, "and the country that thinks it can control either the earth or space environment is making itself a target. Other countries are not going to allow hegemony, either on Earth or in space" (?2005: 5-6).

Let us take two examples in two different regions. "In Israel", notes the Israeli politician Issam Makhoul (2000), "there is frequent mention of the 'Iranian and the Iraqi danger', while ignoring the fact that it was Israel that introduced nuclear weapons to the Middle East in the first place, and created the legitimacy for other states in the region to obtain nuclear weapons" (quoted by Green, 2001: 10). This inducement to proliferation is recognised as a danger to deterrence (idem; Remacle, 2001; Joxe: 117; Villepin, 1998: 28).

The most extreme current example of the arms race and instability is between India, Pakistan and China. Both India and Pakistan are on a minimum level but Pakistan is very much disadvantaged compared to India's conventional military strength, and India assesses its minimum with respect to China. If the US persists in extending its Theatre Missile Defence to Japan and Taiwan, China will counter it by expanding its nuclear arsenal. India's minimum will inevitably always exceed Pakistan's (Green, 2001: 6).

Another issue raised by this nuclear arms race and strength race is nuclear terrorism. One can assume that the rise of terrorism is a consequence of states' nuclear deterrence: people resort to terrorism when a face-to-face traditional fight is impossible, and it is obviously so with nuclear weapons.

The Oxford Research Group proved that the risk was real (November 2005)[30]. There exist capacities of terrorists' nuclear bombs (McNamara, 2005; Dan Stober, 2003; Hoodbhoy, 2005; Zia & Hoodbhoy, 2006). US intelligence reports (January 2006) show that the Iranian regime has offered to arm other Arab states if it obtains nuclear weapons, thereby arming the whole Middle East with weapons of mass destruction (Mark Pritchard, 2006).

[30] Several other sources support this claim. See for instance the chart by abolishnukes.com showing that nuclear terrorism is the most urgent unmet threat: http://www.abolishnukes.com/charts/urgent_unmet_threat.html.

Finally, nuclear weapons are symbols of power and of technological expertise of a level equivalent to Westerners. Some analysts have said Chirac's praise of nuclear deterrence in preserving France's security and independence was yet another demonstration, including for Iran, of those weapons' political and strategic utility (Ann MacLachlan and Mark Hibbs, 2006). Reacting to Chirac's January speech, the spokesperson of the Iranian Foreign Ministry, Hamid Reza Asefi, declared the French President had unveiled "the secret intentions of nuclear powers to use this lever (nuclear weapons) to determine the political stakes" (AP, 21 January 2006).

3.2.4 Bad conflict management

Despite what political leaders affirm, there is no doubt that nuclear deterrence is unsuitable for solving conflicts. First there is always uncertainty about what is happening in a crisis, so how can one be sure to take the right decision and control the circumstances? No mistakes are permitted with nuclear weapons.

Second, good conflict management requires flexibility although nuclear weapons are too powerful. Crises have revealed that nuclear war plans were grossly inappropriate, designed for large-scale premeditated and surprise attack, with no usable military options. Designed for deterrence, they are equally suitable for provocation (Cimbala: 49). Nuclear war plans are oriented towards the worst-case scenario and have proved to be inflexible instruments. Political leaders might be drawn by organisational decision making into a bad nuclear plan, leaving them dependent on crisis management timetables and military options inappropriate for the circumstances (Cimbala: 84). The 1960s-1980s witnessed attempts to escape the all-or-nothing character of war plans (Cimbala: 120).

Third, good conflict management requires confident management skills from political leaders. This is incompatible with nuclear deterrence which is about threatening to prevent war (Cimbala: x). Gorbachev took confidence-building measures, including arms control, transparency, non-provocation, to put a peaceful end to an almost 45-year long war but unfortunately Westerners took time to believe in his good faith (Cimbala, 10).

Fourth, as taught by the July 1914 crisis and demonstrated by Cimbala (1994), the objectives of crisis management may be in conflict with those of extended deterrence (Russian towards Serbia, Germany towards Austria).

Fifth, mutual destruction is static while the problem of nuclear weapons is that everything about them is quick and they jeopardise crisis stability. With a nuclear 1st strike, the other party has not the time to enter the war nor time for escalation (Joxe, 1997: 115): one party

decides the other's fate without giving him a chance. In addition, both second and first strikes make it difficult to solve the crisis on mutually acceptable terms.
Sixth, two factors inhibit a rational decision-making process in crisis and normal conditions: bureaucratic policy (politics comes from bargaining games among bureaucrats), and organisational process models. These explain why daily activities can be decoupled from long-term objectives in an organisation (Chevallier: 2002). According to Richard Ned Lebow, one of the three major sources of crisis instability is loss of control. Others are miscalculated escalation and preemption, dangers we have already highlighted. Solutions to loss of control are found in electromagnetic locks and procedural controls. The loss of control is usually admitted after the fact (Cimbala, 107). Political leaders are more taken to charging the military with bad advice in the event of military failure rather than ill-conceived war aims. Besides, as Belgian Minister Louis Michel reminds us the feeling of invulnerability arising from the possession of nuclear weapons may trigger diplomatic clumsiness (quoted in Remacle, 2001: 3) extending to a loss of credibility.

3.2.5 Politics vs military influence

Political leaders are more prone to negotiating with, talking with and pressuring their counterparts in case of disagreement, whereas military planners are concerned with strength and vulnerability and want no restriction on military operations. Besides, a military victory is not a political victory. But in case of political failure, the country needs to go to war so both parties can have their interests/concerns satisfied. Is there any gradation between total war and no war?

An example of confrontation can be found in the Cuban missile crisis. Kennedy and McNamara exerted little political stress upon Soviet forces whereas the military insisted the US was vulnerable. This highlights the debate between deterrence and compulsion. To continue with the example of the Cuban missile crisis, deterrence could have prevented the shipment of additional missiles, but compulsion was necessary to withdraw them (Cimbala: 239).

The problem is that satisfying military concerns may send a negative message – as it means preparation for war, and may be perceived as a provocation and entail escalation, although there is a difference between preparation for war, actual mobilisation – getting ready for war – and the outbreak of war. Therefore, how can there be a military doctrine of

non-provocation, robustness and promptness of retaliatory strike in defence? How to reconcile professional officers who prefer decisive counterattacks and have counteroffensives? But, political leaders' lack of knowledge of the details of military operations have caused them to underestimate the impact of those operations on adversaries and allies (Cimbala, 1994) and to focus on force as an end in itself.

3.3 Psychological analysis of nuclear deterrence

" While thinking about nuclear weapons it is essential to be aware of how we think about weapons of mass destruction" says Diane Perlman, a psychologist and member of the American Association of Physicians for Social Responsibility (PSR). Psychiatrist Robert Jay Lifton states that nuclear weapons are beyond psychology: "The presence of these mass-killing devices in the world creates staggering new problems for us and at the same time distorts our thinking and blunts our feeling about precisely these problems." He defined as 'psychic numbing' "a form of desensitization, an incapacity to feel or confront certain kinds of experience, due to the blocking or absence of inner forms or imagery that can connect with such experience." If one is in a horrific and inescapable situation, such as under a nuclear threat, psychic numbing is a protective survival mechanism. But in a situation that one can change, it is maladaptive and threatens survival. To take an example, psychic numbing affects us because first-use policies permanently threaten us, and it deprives us of the faculty to remedy this by demanding a general no-first-use policy for instance.

Because nuclear weapons hang over us as a massive threat, Diane Perlman says, we *deny* the horrible consequences of their use on living beings in an attempt to avoid knowledge and its implied responsibility. Our state of massive denial, ignorance and psychic numbing, she continues, allows danger to escalate. As in the beginning of the Holocaust, which could have been prevented, attempts to raise awareness and intervene have been denied, ignored and dismissed.

In any nuclear states, official nuclear doctrines rely on nuclear weapons as the 'ultimate', 'last resort' to guarantee their existence, security, vital interests. Lifton labels 'nuclearism' this "psychological, political, and military dependence on nuclear weapons, the embrace of weapons as a solution to a wide variety of human dilemmas, most ironically that of security". According to him, nuclearism is an extension of military fundamentalism, a hegemonic ideological belief that the only way to solve problems is by threat or use of violent force, domination and punishment. This doctrine ignores bodies of knowledge of

political psychology, violence prevention, tension reduction and conflict transformation. Or maybe it is a denial to avoid the literature on conflict management and its implications: putting under question the nuclear deterrence doctrine, which has been the cornerstone of security policies for more or less 40 years in nuclear-weapon states.

Nuclear deterrence relies on fear, Perlman reminds us. There is a belief that if others are afraid of our power they will submit to our demands and we will be safer. This works under specific conditions, and is risky with WMDs. It is a psychological fact that people are most dangerous when they are afraid, even more than when they are angry. Strategies should be designed to reduce fear and provide assurances. In addition, envy and humiliation are highly associated with violence and breakdown of deterrence. Moreover, nuclear doctrines focus on one's own perception of security, one's own definition of vital interests. This selfishness in policies, strategies, language organised around one's own security needs and sense of rightness with no consciousness about how these are experienced and received by other actors, causes a range of problematic emotional reactions around the world, including resentment, fear, hatred, anxiety, terror, dread, envy, humiliation, intimidation, anger, rage, insult, and a healthy desire for a respectful responsiveness which, if not met, will naturally drive others in desperation towards a desire for revenge.

Because the psychological climate during the Cold War was peculiar, we will first study it during this period and then we will draw some general conclusions about inter-state relations.

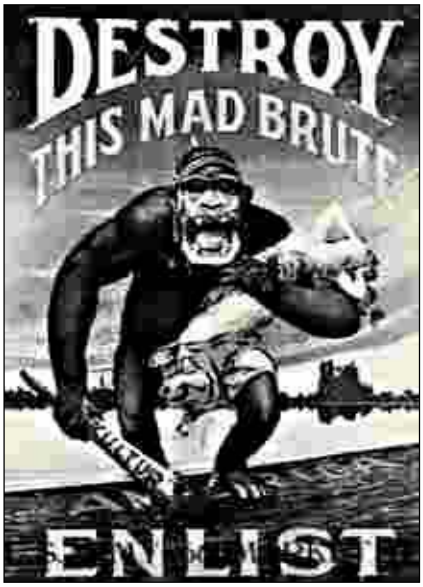
3.3.1 During the Cold War period

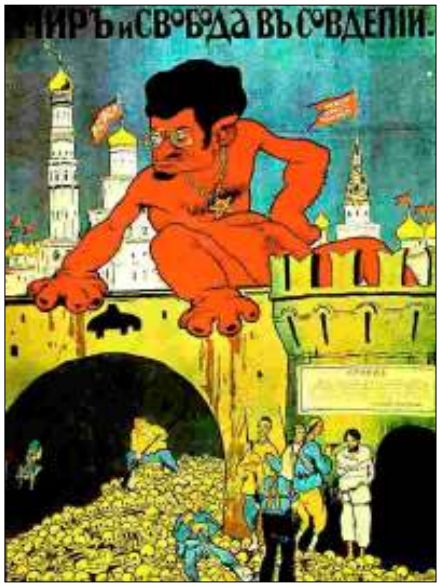
At the end of the 1940s and in the 1950s, the US perceived the world it was living in as very dangerous, and Poundstone brings evidence that some Americans believed it was time to use their military superiority to eradicate all the enemies, particularly the Soviet Union in order to be definitively safe afterwards (105-168). It was 'us' against 'them', they did not consider that the 'enemy' might come from the inside, they did not believe they could live with people who think differently.

Moreover, the documents Poundstone quotes indicate that the US saw all Russians as stupid, ignorant, aggressive, dangerous and bloodthirsty monsters. General Omar Bradley is quoted as saying during the Korean war "If Russia had the atomic bomb, I do not believe Russians would hesitate to use it against us" (189). Consequently, Bertrand Russell wrote to Einstein in 1947 that he believed "the only chance for peace –and it is weak – consists in frightening Russia. The hope to get a result from this method is for me of the order of

pious hope" (105). In addition to scaring Russia, other Americans supported the idea of erasing them. Since they were deeply convinced Russians wanted to kill them, they already felt at war, so it was legitimate to drop the bomb.

This illustrates the importance of perception of the other. According to the 'mirror image of the enemy', a term coined by Jerome Franck in his Book *Sanity and Survival* (1967), each side perceives its own motives as noble, just, and necessary, while the enemy's motives are perceived as hostile and aggressive. It is the threat of enemies that justifies actions that might otherwise be unacceptable or illegal. Physical assault and killing becomes justified in war." Since the other is believed to aim at destroying oneself, there is no reason to denuclearise (Rotblat, Steinberger, Udgaonkar, 1997: 41). A minimum of confidence is required. Today, the highly charged image of the Evil Empire has been replaced by Rogue States and now the Axis of Evil. These archetypal images are used in identical ways to create fear, justify abrogation of treaties and develop missile defences. Fear prevents any rational thinking or relations with others. US President Dwight Eisenhower expressed a doubt at a visit in Moscow after the war: "Before the atomic bomb, I could have affirmed with much certainty that we could live at peace with Russia. Now I do not know… People are afraid, they are troubled (concerned). Everyone feels threatened again" (quoted by Alperovitz, 1995: 145).





Pictures 3&4: Two visions of the 'enemy' (US vision on the left, USSR vision on the right)

The US applied the madman theory during the Cold War. It relies on the hypothesis that giving an image of irrationality would discourage enemy's opposition. James Carroll, from *The Boston Globe*, relates what Nixon said about this madman theory (2005). '"I want the North Vietnamese to believe that I've reached the point that I might do anything to stop the war. We'll just slip the word to them that for God's sake, you know Nixon is obsessed about communism. We can't restrain him when he's angry, and he has his hand on the nuclear button, and Ho Chi Minh himself will be in Paris in two days begging for peace." Six months into his presidency, Nixon's frustration with Hanoi's refusal to budge in its demands at the Paris peace talks was extreme, and he put his madman ploy into gear. If Leonid Brezhnev had behaved as Richard Nixon did in October 1969, the world would have been plunged into nuclear horror. In the event, the Soviet Union did not respond irrationally to the ploy. The North Vietnamese ignored it. The secrecy of both regimes makes it impossible to know for sure what they made of the aggressive alert. As the political scientists Scott D. Sagan and Jeremi Suir point out in their 2003 article in the journal *International Security*, the entire "madman theory" of coercion was flawed in its essence, depending as it did on twisted logic that assumed an adversary would respond to a calculated show of irrationality with something other than irrationality of its own.

3.3.2 Psychology and the use of fear in inter-state relations

States resort to nuclear deterrence when they feel threatened. It is a choice out of fear. But threatening others to make sure not to be threatened ourselves cannot but induce others to opt for the same 'solution' since they are threatened in turn. If A believes that B only understands force, it will be a self-fulfilling prophecy (Perlman, 2001). Kennedy gives a good illustration of this phenomenon about the missile crisis in 1962. "At the end, he said the same year, we all agreed in thinking that if the Soviets were ready to launch a nuclear war about Cuba, it was because they were anyway ready to launch a nuclear war. In these conditions, we did not see what we would have gained in waiting six months to engage in the confrontation" (quoted by Poundstone: 280). By attributing to the Soviets war-like intentions they may not have, the American presidency felt legitimate to engage itself in a war, even if it means being the one who actually started the war. Political leaders have to be conscious of how their reaction is perceived and reduce fear, tension and threat. Deterrence is not reliable and can be triggered a spiral process with rising tensions (Perlman, 2001).

Inter-states relations based on competition encourage the view that if you are hostile to my interests, you are my enemy. For instance, the Soviet Union became a US enemy when it refused to withdraw from Eastern Germany (Poundstone: 107). Consequently, "[nuclear weapons] are essential to make them see sense", as Jacques Chirac elegantly put it in his 2006 speech at Ile-Longue. Countries become over-concerned by their own security problem and forget the other's perception. The aim becomes to win over (Pilisuk & Rowen, 2005: 11).

Nuclear weapons make a huge difference as deterrence because they contravene international law: they do not differentiate between civilian and military personnel; they damage neutral countries – through nuclear dust – and the environment, and cause more suffering than necessary, in violation of the Additional Protocol 1 to Geneva Conventions of 12 August 1949. Consequently, if one country relies on illegal weapons and feels that it is legitimate to use them, there is no reason why others should not do the same, even terrorists or targeted 'rogue states'. Norms are overlooked by everyone, so there can no longer be any long-lasting, trustful agreement to peacefully solve a conflict. There is no surprise at reading Michael Glennon, Professor of International Law, writing that norms exist but this is an illusion: real life is based on force (1991). Norms are also self-fulfilling as they exist as long as we respect them – and as long as there is something to implement them.

Nuclear doctrines are irrational and lie on a paradoxical security. Political leaders act as though it is rational to spend trillions to build weapons that can destroy the world many times over. French say they build these weapons so that they will not have to use them; is it sensible? Nuclear deterrence is a scheme for making nuclear war less probable by making it more probable There are some cases in which deterrence theory appears to work successfully, as in WWII, though it cannot be proven. There are other historical examples, like WWI, where deterrence breaks down and demonstrates evidence of spiral theory. In the name of 'national security' we create fear, envy, and provoke proliferation, rendering ourselves and the planet vulnerable. We provoke a new arms race, weaponisation of space, and terrorism. For instance, when a country decides to protect its interests by giving himself free hands with preemption for instance, or very powerful weapons, "You can't expect to reserve that right exclusively for yourself", stresses Fiona Hill, Russian scholar and senior fellow at the Brookings Institution (quoted by Chomsky, 2005: 28).

Paradoxically, Diane Perlman notes, the way to be more secure is to make your enemy more secure. National security is an oxymoron, there is only Universal Security or universal insecurity. But psychological techniques – use of an exaggerated, distorted image of the enemy, misinformation, misinformation and censorship – induce us to accept the absurd as rational. There is an "absurd disparity between threat and response", Lifton notes, concluding "There is no problem for which the nuclear solution isn't worse than the problem itself".

Nuclear weapons give the illusion of peace. Out of fear, nobody moves or in such a way that every actor remain below the nuclear threshold. Behind the illusion, this raises serious issues: Can we coerce to cooperation and peace through war? Will human beings be made slaves of the peace provided by nuclear weapons as Paul Baruch feared in 1946? For the pro-deterrence people, being against nuclear deterrence is a "pacifist adrift" in Boniface's words (61). Since to be dissuasive, one needs to be strong (like gang leader), this behaviour models strength to be "left in peace" and encourages a society based on violence, fear, strength. It encourages the "violentisation" of a whole society (interpersonal relations modelled after the interstate relations).

3.3.3 Coercing to obtain peace

Poundstone offers many quotes by American people at end of the 1940s and beginning of the 1950s (198-207). According to George N. Craig, commander of the American Legion, "America must now come down strongly to coerce peace. We have this power of prevention. We have the atomic bomb and industrial power. We have the possibility and the duty to put all our forces behind the bomb and industry". From the reports and quotations listed by Poundstone, we can draw the main lines of their argumentation:

1. 'They' threaten 'us', 'they' want to destroy 'us': "Presuming the Russians will not use their A bombs if we stay idly watching them while they are making them is a dangerous assumption" (General Orvil A. Anderson interviewed in "Montgomery Adviser", April 30, 1950, quoted p.206).
2. In addition, there is no way to reach an agreement with 'them' – though unproven. Therefore we are already at war and since we are at war, it is legitimate to use our bomb. Two world wars are enough.
3. Moreover, we have the advantage with the H bomb and our industrial power so we are sure to win if we act now, there is no reason to wait.

4. Conclusion: let us kill ‘them’ and have a long-lasting peace, it is the only solution.
Of course, this kind of message was perceived as provocative by the Soviets and it revealed “the criminal plans of the imperialists” who want to “declare war to impose peace” (radio at Bucharest, August 24, 1950, quoted p.198).

However strange it may be, people supporting this position do not seem to realise that making war is not making peace by definition. They seem to forget one cannot coerce to peaceful cooperation. And finally, what would a preventive war prevent? Not war, obviously, though it is precisely what these people believe they prevent.
The war-like argumentation is still used today and has led some nuclear experts from the Western States Legal Foundation to write a report in May 2005 entitled in a very orwellan way “War is Peace, Arms Racing is Disarmament: The Non-Proliferation Treaty and the U.S. Quest for Global Military Dominance” (Western States Legal Foundation Special Report, by Andrew Lichterman with contributions from Jacqueline Cabasso).

4 QUESTIONING THE EFFICENCY OF DETERRENCE

4.1 Deterrence has proved effective

4.1.1 Evidence

The most commonly found argument in favour of successful nuclear deterrence is that Europe has been quiet since WWII. “For most analysts, the Canberra Commission reports, the implementation of nuclear deterrence is the major explication of this superb result. And those who doubt have not succeeded anyway in proving their cause” (1997: 8). The avoidance of a war and the peaceful end to the Cold War (Rocard: 24) is attributed by most people to nuclear weapons. Similarly Europeans point to the “evidence” that Europe avoided the much feared Soviet invasion (Canberra 11).

These affirmations can suffer slight changes to get closer to reality, since wars did occur during the Cold War (Vietnam, Korea,…). People then argue there had been no war *among nuclear states*, only in non-nuclear states (Lellouche, 1998: 45; Boniface: 37). They conclude nuclear weapons prevent wars among those possessing them. Should we believe all states should be nuclear, so that there is no war ever on Earth? Strangely, no. States claiming nuclear weapons have this beneficial effect also add their owners must be reasonable, or to put it differently share the same reasonable framework.

Supporters claim it does deter action (Jack Lang, 1998: 37). The risk is so huge that governments are compelled to limit the risks of escalation and control the crisis at its outset. French General Fricaud Chagnaud calls this “deterrence by acknowledgement” since this effect exists because of the mere acknowledged existence of nuclear weapons (Saint Germain, 1998). Moreover, they say, the balance of terror and MAD essentially worked in Cuba (Maiocchi: 83). And only deterrence can be credited with the absence of biological or chemical attack against France (Boniface 113), an argument refuted by Pascal Bouveret, president of the Centre of Documentation and Research on Peace and Conflicts, Lyon, who affirms France has never been really threatened with such weapons on occasions when nuclear weapons prevented such threats from being carried out (personal e-mail, 21 March 2006).

More analytically, Cimbala proves nuclear deterrence contributed to international stability thanks to three conditions (99-101): bipolarity – both had large stakes at preserving the status quo, and it is a fundamental criterion; dialogue between the two superpowers;

operating norms of military organisation reconciled with policymakers' crisis management objectives. Today these conditions no longer apply.

On the brink of a war in 2002, Pakistan and India provided us with updated proof of its efficiency. "The Pakistani military and leadership truly believe that nuclear weapons have made them safer in the face of India's larger military and industrial potential", says Steve Coll (2006), associated director of *Washington Post* and author of many books. "I'm not at all certain that's right, but it's a lesson that they have a great deal of conviction about. When you look at India's decision not to launch an invasion in response to a terribly provocative terrorist attack, it's possible to reach the conclusion that some Pakistani generals have, which was that, in this case, nuclear deterrence worked."

4.1.2 Conclusion

Based on these elements, it is easy to jump to the conclusion that nuclear weapons protect states against war, that they contribute to international security and stability, and that they are "tools to maintain order" (Boniface: 51). It is "a weapon at the service of peace", as French President Chirac summarised (*in* Boniface: 34).

Consequently, though it is a legal obligation (NPT Art. 6), denuclearisation is dangerous because "it would again make war possible in places where it is today unthinkable", in other words "idealism can lead to a catastrophe" (Boniface: 107), negatively affecting international stability, and the danger exists of the threat returning. President Chirac said basically the same thing in his January speech, talking of "naivety". So even if today there is no clear threat, we need to keep nuclear deterrence just in case, Xavier de Villepin concludes. That is what Western nuclear weapons states do as they modernise their arsenal and fund research to develop new nuclear weapons.

Wars breaking out among a non-nuclear state and a nuclear-weapon state is to be explained by the limitation of nuclear deterrence to vital interests: for instance the Korean war did not involve any vital interests (Boniface 25). In cases where vital interests are not involved, politicians make it work, "aware of the consequences of failure". Nevertheless, "Exactly where credit should be given for the 'long peace' remains a matter for debate", Freedman regrets (13).

There is no way to know what would have happened if nuclear weapons had not been invented. So it is easy to say *a posteriori* it is thanks to them that such and such thing did not occur. Though we know that the balance (in particular the combination) of antagonisms

and cooperation led to stability in the West-East relationship, there is no certainty nowadays the same balance can be found and maintained, as in the India-Pakistan relationship (Freedman: 120).

4.2 Deterrence has proved ineffective

It is interesting to note that some arguments given to justify the effectiveness of nuclear deterrence are also given to justify its non-effectiveness. This puts in evidence the unavoidably subjective appreciation of it and the difficulty of providing an objective assessment and measurement of the explanation of a non-event.

4.2.1 Evidence

Nuclear weapons do not avoid war, in Freedman's opinion, because we would have found another way to conduct it (12). And that is what actually happened: either states fought through third parties, or traditional war was replaced by economic war, cultural war,…
Maiocchi (83) reminds us that the Cuban crisis, a local conflict, could have degenerated into total nuclear war. This awareness led to détente. Political leaders were afraid of initiating more dialogue to avoid a nuclear war: this shows disbelief in nuclear deterrence.

The USSR had understood that a major conflict would be in nobody's interest and this awareness rather than the fear of a nuclear bombing on its land led the USSR to avoid at any cost a conflict with the West (Canberra, 118-128).

Former US President Ronald Reagan was the first US president who did not really believe in deterrence. Because of this lack of confidence, he proposed on 23 March 1983 the Strategic Defence Initiative (SDI) with the use of space-based systems to protect the United States from an attack by strategic nuclear missiles. It is based on the idea that it is better to protect than avenge. The rationale of SDI is anti-deterrence since it ruins the balance of vulnerability between the two superpowers on which deterrence was based. Indeed if the US attacks the Soviets, the latter will not be able to strike in turn the US, protected behind the SDI shield. By ruining a 2nd strike capability, the SDI system contravenes the ABM Treaty. Besides, the Russians feared it would support a 1st strike capability since it makes the US untouchable and gives stimulus to new technologies. Anyway, the SDI failed because it was too confused, highly controversial, very expensive

and technically futuristic. Besides, “If the aim was to protect and not avenge, the disarmament solution made more sense than a hardware solution”, Freedman notes (19).

Nuclear deterrence obviously failed in the first Gulf War. From the point of view of the models of deterrence, it is hard to understand why Saddam Hussein did not give up (Cimbala 11). On the other hand, the Iraqi leader hoped that the fear of a costly ground war would deter democracies (intra-war deterrence) (Cimbala: 12). He did not reason as planned by the West and was underestimated (Cimbala: 197). The rational criterion was not fulfilled.

The Indo-Pakistani case also set an example of failure (Faruqui, 2006). The Pakistani political leader made a U-turn in his Afghan policy partly to protect the country’s nuclear assets. But these latter were supposed to allow the country to have an independent foreign policy. And what would be the military value of using nuclear weapons to keep a territory that would become inhabitable? It would be suicide bombing. The country’s priorities should be to eliminate the roots of conflicts and terrorism, namely poverty and illiteracy.

If nuclear states have not been able to use them – at least so far –, this is not the mark of the failure of deterrence but of nuclear weapons. The excessive potential of destruction makes its use more and more unlikely, and more and more irrational. The physicist George Charpak explains he is still waiting for a credible scenario from political leaders where nuclear weapons are needed “to deter a potential credible enemy from any attack” (1998: 56).The taboo has already been identified by John Foster Dulles. “Some in the Eisenhower Administration considered that it would be helpful to find some occasion to use the weapons just to break the taboo. No occasion was found” (quoted by Freedman: 70). As Desch notes, they are not used because of their limited military utility and the risk of retaliation (1998). The political costs are too prohibitive. Nothing can sensibly deserve such an overwhelming punishment – especially targeted at the civilian population. And their use is illegal in international law: who would take the risk of breaking the taboo and become the ‘bad guy’, the aggressor, not to defend oneself but to retaliate, or worse in pre-emption?

4.2.2 Conditions of its efficiency are seldom fulfilled

We mentioned earlier the criteria for the operation of deterrence. These conditions are actually not always fulfilled in time of crisis, which restricts the frequency with which nuclear deterrence may work. They are in reality unlikely to be met most of time.

We insisted previously on the communication process. But communication teaches us that who is attempting to influence whom and for what purpose is rarely straightforward (Le Net, 1989). An effective communication process directed at those who are supposed to be deterred is likely to fail. Moreover, governments think up artificial crises to mobilise their public opinion (multiple audiences). “US deterrence posturing has often been aimed at domestic, not just foreign targets”, for instance to reassure its own citizens, Freedman says (51). This is unavoidable in an open, democratic society Morgan underlines (1985: 149). But by responding to a precise audience, one forgets how another perceives it.

We also insisted very much on a second necessary component: rationality. The Indian writer Arundathi Roy (1998) considers in this respect that since it is absolutely compulsory to understand the enemy’s psychology and to know the damage incurred for deterrence to work and since this is almost impossible, nuclear deterrence is doubly flawed. On the one hand, Patrick Morgan draws attention to ‘sensible’ vs. ‘rational’ actors (1985: 136). Morgan suggests that no one is capable of perfect rationality when faced with a situation of “threat and reaction, a complex psychological phenomenon with obvious roots in the emotional equipment of man,” so parties to deterrence should be expected to make “sensible” decisions, with some influence from irrational objectives and perceptions (Morgan, 13, 78). Deterrence does not require complete, pure rationality in decision making; it only requires that the decision maker not be completely irrational (Johnson, Mueller and Taft, 17). On the other hand, Keith Payne reminds us of the difference between rationality and **reasonableness** (2001, 7-15): people can be ‘rational’ – that is, they can assign means to ends – but their goals may not be ‘reasonable’ by our lights. What these authors mean is that an actor can be rational within his own framework of understanding, though that framework may differ markedly from our own. “This is the import of the complaint against deterrence strategy; theories that **depend on the intelligence and rationality** of others are unwise”, Freedman asserts. “All expectations of how another might take apparently simple decisions are subject to a finite margin of error, and the more complex these decisions, the greater the margin, and it becomes greater still the more one’s own actions are a factor influencing those decisions.” (28, 29) Even economics theories start taking into

account actors' psychology and acknowledge that rationality is limited and depends upon the circumstances or preferences of individual actors.

4.3 Impossibility of assessing its efficiency

Some people attribute the balance in international relations to the fear imposed by nuclear weapons, and others claim it was mechanical and it was in the interest of all to avoid a disruption of the system. To prove it, they point to states fighting small wars and engaged in limited military interventions to prevent larger conflicts. Nobody wanted to escalate the war for the system preservation was in their interest. Without this interest, wars could have expanded, Cimbala argues (183-188). This common interest also led them to stick to those for which they entered the battle.

But as Kriesberg notes (1973) it is hard to assess a course of action not domestically-orientated. Lieutenant Colonel Richard E. Porter, a United States Air Force RAND Research Fellow, shares this view (1980): "The theory's applicability is constrained by its heavy deductive content. Since initial premises and fundamental assumptions cannot be verified by deductive logic within the confines of the theory, one cannot know or prove why deterrence succeeds. This does not mean that the theory is invalid; it simply says that, in its present state, much of it is unverifiable."[31]

It is also difficult to find out scientifically, Freedman concedes (29). There are too many variables and not enough equations. In addition, they all depend on one another (Freedman: 29; 43-45). How to find meaningful correlation? Besides, there is a whole range of factors both internal and external, and deterrence is one aspect of the strategic relation.

4.4 Game theory approach of nuclear deterrence

4.4.1 What is game theory?

Game theory is a branch of applied mathematics that studies strategic situations with. mathematical models; the players aim at maximising their gains. According to Schelling, games are sequences of interdependent decisions taken by players whose interests are partly or totally opposed (1967: 218-38)

[31] The claim that 'nothing happened thanks to this or that' reminds one of the joke where a farmer puts gherkins on top of his fence, claiming this prevents rhinoceroses from destroying his crop. But there are no rhinoceroses around here, his neighbour says. See, the farmer replies, it is very efficient!

4.4.2 Lessons from game theory

Game theory is used to explain the arms race and escalation because people believe it creates situations typical of prisoner dilemma and other models, though rather far from reality (Poundstone, 2003: 168). For instance, the model of chicken is used to explain what happened during the Cuban crisis.

The economist Steven J. Brams defines nuclear deterrence as such: “By threatening untoward action against an opponent who initiates conflict, even at great potential cost to oneself, one seeks to deter that opponent from committing aggression in the first place” (1). He uses the chicken model considered as more suitable than the prisoner dilemma (12) to prove that the most efficient is the less credible (33) and that there is no rationale to retaliate (8). In summary, if B does not want to retaliate to deter an attack, he renders himself indifferent into being defected or pre-empting himself, so deterrence is an absolute necessity. Now about pre-emption, if both sides consider the situation as either pre-empting or being pre-empted, each side must make its threat of retaliation more likely than the opponent, which is impossible except where “each side must indicate a greater probability of retaliation than the other in order to render pre-emption by this opponent irrational” (20); this raises the risk of escalation to save face. MAD (making retaliation certain) is sufficient to deter, but it strains credibility since the more credible, the less efficient and vice versa. Probabilistic threats might be more credible than MAD (deterministic threats) and still be effective.

Another solution is a no-first-use policy, in other words not being the first to introduce these weapons into a conflict (21), because first use is irrational in the first place (cf. doctrine of Bundy, Keanon, McNamara & Smith, 1982; Gottfried, Kendell & Lee, 1984). Adopting this policy means both players view cooperation as an alternative.

This enables players to reach the best outcome, but it requires confidence, communication, verification, control, and annihilates the reason to deter. Individual defection can lead to more gains as long as the other continues to cooperate. But when they both give up cooperation, they end up in a situation which is worse for them both.

About the MAD solution, if using an atom bomb can seem irrational in the single play of a game, Brams and Hessel assert it may well be rational in repeated play (1984). Brams then bases his demonstration on a series i.e. a succession of blows, except that in reality, one blow is already too much. Poundstone dismisses the demonstration out of hand and

concludes that nuclear deterrence is not a valid theory. Further, he proves that perception of rationality is only theoretical. If A sees B as alike, there is no further dilemma (8).

Game theories do not teach anything except that cooperation on both sides is the best outcome and they cannot justify the validity of nuclear deterrence. Moreover, game theory does not explain why leaders choose the objectives they choose. Only historians very much after the fact have the luxury to say who stopped the game of "chicken".

4.5 Deterrence in reality

4.5.1 Hazardous to rely on it

As we have already pointed out, in the framework of generalised deterrence, we do not see the crisis will explode because the system has already supported other crises in the past so it is difficult to see the big crisis coming up. And structural transformation may go unnoticed (Cimbala 270).

Moreover, though multipolar systems are stable (Walt, 1987), they create incentives to commit two kinds of errors: 'chain ganging' and 'buck passing'. In the first one, a party gets involved in a crisis because of its allies, whereas in the second, those who pass the buck may get isolated once the enemy has defeated the others (Cimbala: 277). Multipolarity also creates more confusion and makes it more difficult to clearly identify enemies, we need to know whom to deter to know *how* to deter him/them by adjusting to his/their rationality.

We have explained how the operational conditions of nuclear deterrence are precarious: they include different rationality, problem of credibility, precarious interpretation and mutual understanding, analysis costs/gains, and understanding of the risks. One cannot secure the right outcome because the variables that play in deterrence are highly subjective – expectations of results, assessment of consequences, order of preferences of consequences, predisposition on the basis of what was known at the moment, previous conditions,… (Cimbala 14)

Despite the fact that no nuclear war broke out among the two superpowers during the Cold War, one has to admit that the threats were dangerously one-sided. There was no component for crisis stability, parties experienced provocation, miscommunication, the leaders were under stress and relied on distorted sources. In one word, the conditions were not the best for nuclear deterrence to operate but a major crisis was avoided all the

same. Is it attributable to the nuclear doctrine or to luck, or to the fact that political leaders were so afraid of the consequences that they managed to keep every crisis below the nuclear threshold? As Rebecca Johnson, of the Acronym Institute for Disarmament Diplomacy, summarises, “If you believe in it, then it gives you a bit of reassurance until it gets tested and it fails, at which point it is far too late to discover that it wasn't actually helping you at all” (2006).

4.5.2 Fear of consequences prevents first strike

There is no positive outcome in a nuclear war. Land, people, all living creatures get contaminated and biologically affected. The attacker's homeland may be affected too if the winds are 'favourable'. The moral judgement of the international community may also shape the meagre political profit that could be drawn from such an act. In addition, the command and control would be beheaded after a massive strike, leaving the force operations short-war oriented, making impossible to have a controlled escalation (Cimbala 96), which could flare up in a larger area. Having superior military forces is of no help in a nuclear war.

Therefore moderation is required, bargaining ratios must be balanced with force ratios. Consequently, nuclear weapons at best back up a position already strong with conventional capabilities (Cimbala 6) but cannot be used alone. And their use is always a lose-lose solution.

One may object that low-yield weapons limit damage to the attacked one. Wrong: such weapons are usually combined with ground work and troops will be contaminated too. They are already contaminated by depleted uranium (DU) ammunitions, despite official denials (Westerman, 2006; Lefeez, 2005), though DU emits only alpha rays. Besides a report from Green Audit brings to light evidence that dust from DU travelled from Iraq to the British coasts (Busby & Morgan, 2006). Since DU dust is lighter than sand, and since sand travels across the Mediterranean Sea, this is possible.

4.5.3 Conventional weapons are essential and nuclear weapons are not cost-efficient

Nuclear deterrence works in case of nuclear aggression[32]. For other threats such as proliferation, bloody and local regional conflicts, countries still need conventional forces,

[32] Though now doctrines extend to biological and chemical weapons, and even to back up conventional weapons.

and new military technologies (Revolution in Military Affairs[33] and NMD[34]) (Remacle, 2001).

Already over the past sixty years, conventional forces proved necessary since the US-USSR conflict remained below the nuclear threshold. In the 1970s, Delmas offered a list of forces to cope with any situation (30). By making it possible to proportionate the strike, it becomes more credible. Others like Wilkening and Watman find conventional hardware less overwhelming, less clear, difficult to be convincing, making less compelling threats because the consequences and outcome of a US attack would be less clear – even if military planners were surprised by performance of US conventional forces during the Desert Storm operation (Cimbala: 45). In their opinion, conventional forces only would diminish US deterrence strategy efficiency.

However, this reasoning forgets a fundamental difference between nuclear and conventional weapons: in case deterrence fails, nuclear weapons destroy and poison not just the belligerents but the Earth and every living being by damaging their DNA forever. So in Commander Robert Green (Ret.)'s opinion, any non-nuclear security strategy is safer (2001: 16).

Besides, it is important to point out that investing in nuclear weapons means under-financing conventional weapons. But nuclear weapons cannot achieve the missions previously attributed to conventional forces. On the contrary, the Canberra Commission asserts "recent past tends to prove that classic military capacities can accomplish tasks we believed reserved to nuclear weapons… such classic capacities have a credible power of deterrence. It is possible to really use classic weaponry, contrary to nuclear weapons." (139-140)

John Mueller (1989) suggests that nuclear deterrence was not the only conceivable way nor the most reliable to prevent a Third World War. On the contrary, the Soviets were in the 1980s more concerned by their conventional weakness vis-à-vis the West than by the number of nuclear weapons. Documents uncovered by the Parallel History project show that the West's conventional weaponry and their pretended determination to use them appeared as effective a deterrent as the threat of a nuclear holocaust (Lunak, 2001).

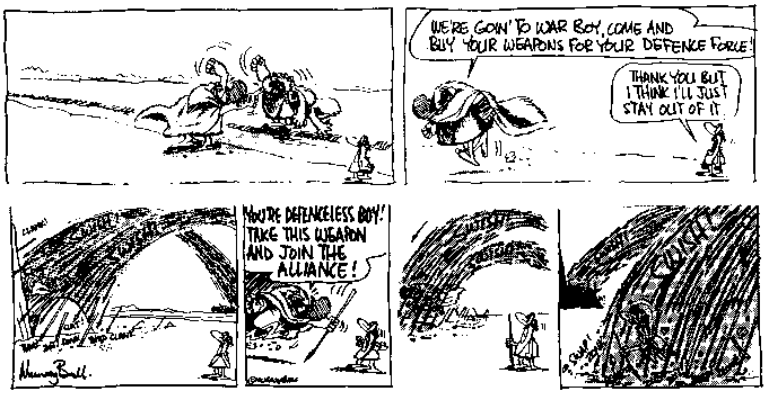
[33] According to Andrew Marshall, director of the Office of Net Assessments in the Office of the Secretary of Defense, "a Revolution in Military Affairs (RMA) is a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alters the character and conduct of military operations."

[34] The National Missile Defense (NMD) is a military strategy and associated systems developed to protect the United States against limited ballistic missile threats.

4.5.4 It can be counter-productive

Nuclear deterrence may be counter-productive in the sense that instead of increasing security, it decreases it in the long run. There are several arguments in support of this assertion.

As we have already underlined, certain factors render nuclear deterrence fragile: decisions must be taken quickly, fear increases paranoia, allies can turn into enemies, escalation can be manipulated but the country might get trapped and send a signal of non-provocation to escape an inadvertent escalation, and postures of force can be perceived as intent to use force – the reassurances military planners look for in time of crises can raise opponent's fear of attack and alarm it into a 'defensive' first strike (Cimbala: 211; Pilisuk & Rowen, 2005: 8-10).



Courtesy Murray Ball, reproduced from 'Stanley' (1982)

Generally speaking, realist theorists believe that every country looks for as much power as possible in international relations. But this power race reduces deterrence in two ways. First, if every country gets nuclear weapons of the same kind, they cancel each other out: they cannot rely on their superiority and they fall into the MAD scheme, which limits their scope of intervention. Second, enters the security dilemma, where steps taken to increase our security decrease the security of others. And as we get stronger, competing states get a stronger impetus to compete against us. Peter R. Lavoy, director of the Center for Contemporary Conflict, favours a reduction of the strategic role attributed to nuclear deterrence, wondering whether it should be an overarching policy or just "a component of our strategy vis-à-vis China or WMD proliferation" to give two examples (2004). As the Roman philosopher and statesman Seneca explained almost 2000 years ago, "Power over life and death – don't be proud of it. Whatever they fear from you, you'll be threatened with."

The United Nations also worries about the increasing number of nuclear weapons on the planet. In its Final Document of the Special Session on Disarmament (A/RES/S – 10/2, 1978), it claims that instead of increasing security, nuclear deterrence does the opposite: “The increase in the number of weapons and in particular nuclear weapons, far from helping to strengthen international security, weakens it on the contrary. This situation reflects and worsens both international tensions, sharpens conflicts in various areas of the world, hinders the process of détente, exacerbates differences among opposed military alliances, jeopardises security of all states, increases the feeling of insecurity of every state including non-nuclear states, and increases the threat of nuclear war.”

By increasing the role of nuclear weapons and updating them, and by modifying the formulation of deterrence, the current nuclear doctrines worsen the picture. Already in 1960, Herman Kahn was concerned about the “deterrer becoming too strong” (157) thereby inviting preventive or pre-emptive war. While recognising with Lieutenant Colonel Michael B. Seaton of the US Air Force, that it seems an improbable proposition in the modern era (1980) since we cannot imagine that a country would pre-empt over the US or France, one must however admit the doctrine “from the strong to the weak” that is spreading from the US to the UK and France is at the root of the rationality of proliferation. The nuclear-weapon states know it and that is why they emphasise very much the “danger of proliferation” because they are at the source of this logic (Joxe: 115; Stenger, 2005).
Giving oneself the right to pre-empt for one’s security, before it is too late to do it, cannot be denied to other countries in the same situation. If everyone is entitled to pre-empt, this is aggression at will and there is no longer any international security. Recently, North Korea claimed it could do the same: ``The KPA side is of the view that a pre-emptive attack is not (the) monopoly of the U.S. and that the DPRK, too, has the right to pre-empt an attack as the most effective and positive act for self-defence in the light of the hard reality that the DPRK and the U.S. sides are still technically at war," the spokesman for the North's Korea People's Army (KPA) was cited as saying (Herskovitz, 2006).

Besides, another factor can increase the desire to pre-empt: failure of deterrence. Indeed if deterrence fails, there would be no meaningful difference in the degrees of loss. Though Jervis wrote that it does not mean that the president cannot wage limited war with flexible options (Jervis, 1989), it induces countries to choose massive and suicidal attacks first to avoid further attacks. To put it differently, although the prospect of costs should deter, it

can also make appealing the possibility of pre-empting with a “defensive” first strike (as when Israel struck Iraq in 1981, though that was a conventional strike then).

Finally, the Canberra Commission (1997) expresses regret that using nuclear weapons in regional conflicts, as the US, France and the UK are now advocating, is a short-sighted strategy. It would ineluctably and significantly intensify proliferation. And this is actually what we are witnessing.

As we have seen, deterrence was effective during the Cold War, and that can be attributed - though without certainty – to specific conditions fulfilled at that time. The situation was favourable to such a "strategy" (interest of all, bipolarity,…). But it is almost impossible to assess to what extent the doctrine "saved the world" from a third world war as many believe. However, even if it worked we should not applaud such a performance because if wars were avoided among "developed and rich states", they occurred in poor countries. Nuclear deterrence should be granted only the benefit of 'delocalising' wars: this issue is not ‘less wars’ nor ‘no war’ but wars-somewhere-else-where-there-is-no-risk-of-annihilation. There are also different kinds of war, with no fighting but war on economic, cultural,… grounds. Despite the positive effects nuclear deterrence can have , political leaders and military planners of nuclear-weapon states had better wonder if nowadays the nuclear doctrine is still able to guarantee them a peaceful life? The terrorist attacks in New York on 11 September 2001, remind us that when someone wants to harm someone else, he/she can still find ways to achieve his/her goal, even despite the best protection, and – ironically – with very few means and no state-of-the-art technology. Is nuclear deterrence still an option to privilege today? Aren't there any better ways to manage conflicts?

4.6 Is deterrence a good tool to manage conflicts?

4.6.1 Nuclear deterrence is poorly suited to solving conflicts

We can concede the point that nuclear deterrence avoids large-scale wars but it leaves conflicts unresolved. It “forces" instead to reasonableness, by compelling states to look at options other than force to 'solve' the conflict. The party must find another way to express its discontent, in case it decides to express it despite the potential consequences. And because a direct confrontation is made impossible, it will resort to guerrilla warfare, subversion and terrorism.

But regarding conflict-solving, it has superficial effects for it does not change the behaviour intrinsically: people behave differently because they want to avoid a holocaust, not because they have learned and believe there are peaceful means to solve conflicts. "Political leaders are not wiser than yesterday, Raymond Aron notes accurately as early as 1957, they are more aware of what a third world war would be" (*in* Delmas: 20). Delmas shares this opinion: "It is less the wisdom or the respect of "otherness" that took political leaders into caution and non-use of violence than the fear of consequences, for themselves, because of retaliation's inevitability that in any case the attacked would be able to exert. This peace out of fear asserts then a certain balance, stability was put under question by the qualitative arms race and by the proliferation of national nuclear forces." (65)

Fear makes them act – or non-act. Nuclear deterrence provides peace out of fear of annihilation through the rule 'might is right". But scaring not to be scared is not good conflict management. As Joxe puts it, with nuclear weapons "Genocide, condemned in Hitler's case, [is elevated] to a factor of peace…The – peaceful – habit of threatening genocide, contracted over 30 years has become the matrix of an indifference regarding small cobbled up genocides which everywhere are managed today on the basis of military and militias' classic weapons" (106). He adds that since a nuclear war is an unjust war – a whole population is targeted for decisions taken by a small group of people in power - nothing just can flow from it (Joxe: 100). Furthermore, not banning nuclear weapons legitimises their use, by terrorists as well.

But the party may decide not to express its discontent out of fear of escalation. Indeed, one major postulate of nuclear deterrence theory is that there can be no meaningful outcome of a nuclear war. Therefore the conflict is not solved, not even tackled, but hidden and goes rotten, worsening future resolution.

Generally speaking, more justice and less order cannot arise from a greater capacity of material destruction (Joxe: 100). Harald Muller, research director at the Peace Research Institute Frankfurt (PRIF) and director of the "Non-Proliferation" programme, has stated: "the use of WMD is fundamentally incompatible with western values. Whatever the harm caused by a mad leader of a proliferating state, revenge by killing civilians in an indiscriminate way is compatible neither with international law nor with the values defended by our nations." (1996: 109)

Moreover, nuclear weapons and deterrence leave no room for negotiations or bargaining. Nuclear deterrence is a zero-sum game: the gain by one actor can only be achieved by a loss by the other. No common ground can be reached for cooperation, so countries feel threatened in their identity and very existence, and find it hard to preserve security (Maguire, 2006). The use of force and its all-or-nothing feature with nuclear weapons make compromises more difficult to reach in a conflict. On the contrary, they induce people to focus on winning, losing sight of their basic interests; being self-interested rather than thinking up mutually desirable policies; and blaming others rather than solving problems.

4.6.2 Nuclear deterrence is poorly suited to current needs

Political leaders of states who previously justified their nuclear arsenal as a protection against the Soviet threat have found new reasons to maintain them. According to them, nuclear weapons are adapted to the WMD threat, the terrorist threat, and 'the new threats'. On the other hand, in December 1996 sixty retired officers, included the former commander in chief of NATO forces General Goodpaster and the former Russian Deputy Minister of Defence Boris Gromov, called countries to give up nuclear weapons on the ground that they are unable to face the new threats, including proliferation which is “a peril for global peace and security” (Lang: 38). We will demonstrate that they are right.

The Canberra Commission also reminds us that use against biological and chemical weapons was not the original *raison d’être* of nuclear weapons. Success with chemical weapons is very much dependent on draughts and ventilation shafts. It has often failed because it did not manage to reach its target. The sarin gas experience in Tokyo by the Aum sect is a good illustration of this failure because of a ventilation shaft. A similar experience in the Paris subway would be much more successful because it is better-ventilated (Marret, 2002). Similarly, the result with biological weapons is also risky because microbes need specific conditions to remain alive. In brief, the outcome is uncertain with biological and chemical weapons. After an extensive study of evidence of biological and chemical weapon use throughout history, David C. Rapoport, professor of political science at UCLA and editor of the *Journal of Terrorism and Political Violence,* affirms with others that they do not deserve the label of “weapons of mass destruction given that have been relatively few deaths with such weapons so far.” (cited by O’Neill, 2004).

And if a state uses an atom bomb on a chemical and biological weapons facility, the nuclear explosion would create and dispersed massive amounts of fallout, and any toxins not destroyed by the blast could be dispersed. The state holding them is likely to store them in various places, which implies several nuclear strikes to destroy them. The cure would be worse than the disease. And it would give the state the political and military justification to use its own WMD.
In case of a nuclear strike in retaliation to chemical and biological attacks, General Lee Butler commented about the US that “In a single act, we would martyr our enemies, alienate our friends, give comfort to the non-declared nuclear states and impetus to states who seek such weapons covertly” (1998, quoted by Green, 2001: 8).

Steve Simon and Daniel Benjamin (2003) demonstrated regarding the US reviewed doctrine, that deterrence may work to deter states supporting terrorists because ‘the world’s leading state sponsors of terrorism’ lost confidence in their ability to ‘carry out attacks against the US undetected’. However, it is absurd to target terrorists with nuclear weapons, the yield is too high. In addition, some terrorists have a suicidal nature (ex: Al Quaeda), so threatening them with death is pointless. According to Robert Pape (2005), suicide terrorism was adopted to drive Westerners away from their homeland. A way to stop them is to show it is inefficient: “that person [suicide-bomber] might be deterred if it transpires that suicides rarely succeed in inflicting much damage or in producing the strategic effects that might justify the martyrdom” (Freedman: 124). Besides, a vigorous response is precisely what they want – it radicalises those who suffer from it. The National Academies Panel concluded that faced with terrorism, traditional direct deterrence was impossible, it was better to communicate with states supporting terrorists so that they moderate them. The best strategy is to isolate them and to root them out, stigmatising their ideas amongst communities that might be sympathetic (*in* Freedman: 122-3), and relying on intelligence.
Furthermore, striking an aggressive Muslim state even in retaliation would cause the Muslim world to bind together against the nuclear state, which would get portrayed as the torturer (Canberra: 38). This situation is more likely today since western states are mainly Christian, and the obvious states targeted for retaliation in the event of terrorist attacks are Muslim states, which strengthens the division of the world on religious grounds, exacerbating global conflicts.

The new threats may not be what nuclear-weapon states pretend they are. True, the conditions that enabled nuclear deterrence to operate in the 20th century do not apply any longer in the 21st century (Pilisuk & Rowen, 2005: 8). But as Mairead Maguire notes, the main conflicts today are not between states but are intra states. The violent conflicts we see are in ethnic, political, or failed states. One must (certainly) admit that dropping nuclear bombs will not help to solve them. Indeed, if rattling nuclear sabres proved somewhat useful in the past, there is little indication that this will be so in the future (Porter, 1980). The use of military force to support political goals is becoming increasingly more complex. Our inter-dependent world today requires dialogue and negotiations to solve conflicts.

Moreover, the survival /future of a country is not measured at its borders but at its identity. Occupied countries with a strong identity and strong values oppose any invader and usually manage to get independent (ex: France under WWII, Yugoslavia, Iraq soon from the US...). But nuclear weapons precisely destroy this identity by destroying the cultural heritage and damaging DNA.

In fact, as the Iranian Foreign Affairs Ministry spokesperson underlined, the real security problems are elsewhere: “Chirac should better pressure western leaders” to tackle “the roots of discrimination, poverty and injustice in various areas of the world” (2006). Gorbachev had already argued in his book *Perestroika* (1987) that many threats to national and global security were non-military and international. According to Maguire (2006), defence ministries are today increasingly recognising this fact and agree that “The security implications of global poverty, environmental degradation, the trade in narcotics etc., cannot be tackled effectively by a single sovereign nation; even the most powerful one, and cannot be controlled, even by conventional military means”. Nuclear weapons have no relevance for these new threats (Ritchie, 2000), and thus are not relevant for conflicts threatening our security (Canberra, 1997). Besides, it is noted that we no longer deter anyone in particular

4.6.3 Nuclear deterrence is poorly suited to democratic states

In a democratic state, the Parliament as people’s representative is the body which declares war because grave decisions like this must not be left to a small group of people. However, launching a nuclear holocaust takes comparatively little deliberation by President with his advisers (McNamara 30). Not only are the people deprived of their right

to declare war, but they are also the ones who suffer from it and are taken hostage (Joxe, 1997: 110), given that nuclear weapons punish a whole nation, which is not always responsible for what its leaders do (Garwin, 1997: 250).

One may object that people are responsible for their leader's decision to get and use nuclear weapons, but almost always governments have decided to go nuclear in secret, without public consultation. The European Union gives such an example. The European Union has been thinking about nuclear sharing (Schmitt, 1997) and has been building a common defence for a dozen years. On the other hand, the European population does not demand a nuclear deterrence and does not even debate about building a common defence, although it is now aware of its existence. But it does not know what its official capacities are nor when the relevant agreements were signed[35]. This situation clearly highlights a gap among people and their political leaders on this issue, the latter deciding for the former that nuclear deterrence is good for them[36].

Conversely, depending on the national culture of reactions to provocations and on existing mechanisms for restraint within a democracy, the people can exert strong pressure and the leaders are faced with acting or losing their seats. According to a senior Indian interviewed by Steve Coll, his country's democracy makes it harder to avoid war. "Even if an Indian leader judges that war is too dangerous or too ineffective a tool to use against the problem of Pakistani-sponsored terrorism, an elected government in a noisy, competitive democracy like India's may feel extraordinary pressure to act, or face the loss of office. It would be a particularly stalwart leader who would be willing to lose office because he was determined to resist this kind of popular war fever" (Steve Coll, 2006).
But it is unlikely that people, if well-informed, would support nuclear weapons. Otherwise nuclear-weapon states would not have to hide how horrible the consequences are to make sure their public goes on backing them (Poundstone: 109). The US censored any picture, report, anything showing the consequences of Hiroshima and Nagasaki bombings for two years. If people had known, maybe there would not have been a Cold War or at least no

[35] In December 1999, the European Council of Helsinki fixed the global objective of being able in 2003 to deploy in 60 days and sustain for one year minimum up to 60,000 people able to carry on the Petersberg's missions. Then, in December 15, 2001, the European Council of de Laeken declared the European Union was operational and able to carry on certain operations of conflict management. These meetings, agreements and declarations are unknown to the average European population.
[36] A study by Wolfang Wagner, "The Democratic legitimacy of European Security and Defense Policy" (April 2005) explains that the first pillar on which the democratic legitimacy of such policy rests is the "output legitimacy", that is to say "the effective provision of public good': as long as European security and defense policies are efficient, they are legitimate. It is the 'government for the people', as Wagner says.

nuclear arms race, no MAD doctrine, nuclear deterrence would not have spread because public opinion would have been strongly against it, Jay Rubin believes (1995: 89-100). As for Hugh Gusterson (1995: 160-170), he reports that for the 50th anniversary of Hiroshima and Nagasaki, the Institute … had organised an exhibition with pictures of bodies to show to the American public the physical, material consequences of a nuclear bombing. This exhibition got banned precisely because it was too 'real' for the public.

4.6.4 There are better means

Strategic thinking, power plays and mutual threat perceptions have produced an enormous increase in military capabilities that increased rather than reduced the security dilemma. When South Africa, Brazil, Argentina, Ukraine and Kazakhstan renounced nuclear deterrence, there was a belief that it was a matter of time before the great powers would give up theirs, convinced that nuclear weapons do not make us safer but more vulnerable, Steve Coll reminds us (2006). But this is not what happened. "There's been a quantum leap technologically in our age, but unless there's another quantum leap in human relations, unless we learn to live in a new way towards one another, there will be a catastrophe" Albert Einstein noted (quoted by Perlman, 2001).

New definition of security

The great insight that Mikhail Gorbachev and Eduard Shevardnadze brought to break open the Cold War was 'mutual security'. If you threaten your adversaries, they will threaten you back. If you make your neighbours more secure, you make yourself more secure. At the 2002 session of the Conference on Disarmament, Ambassador Hu Xiaodi of China backed up this idea, encouraging "every country to foster a new security concept with mutual trust, mutual benefit, equality and coordination at its core, as the interdependence in security is deepening" (*in* "The Kurtz Institute of Peacemaking": 10). Real security is indivisible, every one is secure if each one is secure (NGO opening Statement, NPT Review Conference 2005; Piliusk & Rowen, 2005: 9). True security should benefit all and not a few privileged states. In Mairead Maguire's words (2006), "The best form of security for us all is to make friends with our enemies."

New organisation of international relations

To help us find a new organisation in international relations, let us have a look at a 'micro' level. In a state or a city, people respect law and live in security. Security at social level is

guaranteed by a huge consensus on the respect of law, on acceptable behaviours, on citizens' obligations, by the existence of an institution (police) able to deal with offences, and by the possibility to manifest opposition or dissatisfaction through periodic elections and demonstrations (Freier, 1997: 211). These ingredients should guide us to design something at the international level that would restrict the use of force while guaranteeing security.

Using force to reach one's aims encourages the others to do the same. Though it may appear appropriate when oppression is intense (Freedman: 129), it is absolutely necessary to have an international order which restrains the use of force and provides a place to bargain (persuade, convince to stop before losing control on escalation). This place is the UN but this body depends on the (bad) will of states which limits its potentialities, that is why it is being reformed. Developing and building institutions that use rational strategies will replace a false sense of security by de-escalating cycles of violence, not threatening and provoking nuclear spirals, and ultimately replacing volatile coercive policies and maybe war itself. Furthermore, due to the absence of a final arbiter with enforcement power, Hans Morgenthau underlines the necessity for a balance of power (1967).

Goldanskii & Rodionov (1997: 259) suggest decreasing national arsenals and entrusting the United Nations with nuclear weapons and creating the UN Nuclear Security Forces.

Hélène Labbé, professor at the Institut d'Etudes Politiques of Paris, suggests regional and global measures to decrease the feeling of insecurity, such as the implementation of the Comprehensive Test Ban Treaty (signed in 1996), negative and positive security assurances, Nuclear Weapon Free Zones[37] (298-299).

Strengthening international law

In international relations, key actors are nation states seeking to preserve their existence and identity in their interaction against all potential risks, in particular against threats from other nations' use of force. Writing to the New York Times, Einstein notes in 1945 that " we have learned, and paid an awful price to learn, that living and working together can be done in one way only - under law. Unless it prevails, and unless by common struggle we are capable of new ways of thinking, mankind is doomed". International law comes as the

[37] Nuclear weapon Free Zones (NWFZs) at the minimum prohibit the stationing, testing, use, and development of nuclear weapons inside a particular geographical region, whether it is a single state, a region, or area governed solely by international agreements. There are regional NWFZs in Latin America and the Caribbean (Treaty of Tlatelolco), in the

institution which defines the rules of the game that everyone can rely on to diminish conflict, restrain threatening capabilities and enhance cooperation. It is an important incentive to enhance stability and reduce the risks and costs of conflict (Maguire, 2006). International law must also deal with the motives through security policies (Maguire, 2006). Regarding nuclear weapons, civil society has already produced a Model Nuclear Weapons Convention drafted by scientists, lawyers, and policy makers which was introduced into the UN General Assembly by Costa Rica as a discussion document. Some NGOs and states also advocate an international control of ballistic missiles and other delivery systems. To discourage violations of an agreement, these latter need to be detected and the expected benefits from violation to be neglected. Unregulated interaction often supported worst-case scenarios resulting in the arms race and wars which were only restrained by the capabilities and resources of the actors involved (idem).

Strategies to manage peacefully conflicts in international relations

It should be obvious by now that the dualistic, right-wrong, us-them, good-bad military force paradigm is making us infinitely less secure. We must make a quantum leap into the next, post-military paradigm, Perlman advises. This new way of thinking and conducting international relations will be based on psychology, violence prevention, peace and conflict studies. It means taking the perspective of the other, empathy, following consequences through time, avoiding humiliation, addressing suffering, despair, poverty, culture, and designing win-win strategies, using language, policies and interventions that give hope and reduce tension. States had better resort to coercive diplomacy, bargaining and negotiation, being outcome-oriented instead of force-building, and change for a non-provocative defence. The basis of peace is understanding the fears of others (Tad Daley, Jodie Evans, and Mimi Kennedy, 2006).

Let us present some techniques.

Like Daniel Goleman's groundbreaking concept *Emotional Intelligence* (1995), we can envision a 'Political Intelligence' that can be applied to reducing terrorism and transforming our posture in global politics. Diane Perlman uses the term 'transcendent politics' in which

South Pacific (Treaty of Rarotonga), in South East Asia (Treaty of Bangkok), in Africa (Treaty of Pelindaba). We can add the Sea Bed Treaty, Outer Space Treaty, Antarctic Treaty.

policies transcend particular interests, dualistic thinking, and consider optimal, win-win strategies with long-term benefit.

We can also rely on mechanisms of war prevention to avoid nuclearisation of conflicts and prevent small wars from developing into bigger ones (ex: failure in former Yugoslavia, Karabagh, Rwanda,…). Institutional reforms will replace outdated, paradoxical and dangerous nuclear systems (Joxe 117).

Or we can have a look at the European experience. Europe had started to show the way to a reconciliation among states. Robert Schuman and his colleagues had followed Adam Smith's advice to make states economically interdependent to avoid wars among them, for wars would have harmed their interests. Unfortunately, European political leaders are now making economic means an end in itself, which entails a division among peoples on economic criteria instead of reuniting them.

Knowing that tackling the roots of conflict prevents a crisis from erupting, "it should be possible to establish analytical systems which reveal the source of problems and prevent their emergence by anticipating them, rather than merely deterring them by threats and punishments once they have occurred" (Burton, 1996).

The international system needs core values promoting stability with flexible programmes of adjustment for those states whose aims cannot be satisfied within the context of system stability. If too many powerful states develop antisystemic objectives and strategies, the system will fall. It is necessary to recognise the link between system strategies and "dissatisfied actor" options (Cimbala: 182).

Richard Wendell Fogg, director of the Center for the Study of Conflict, claims we do not need to abolish war but to replace it and develop complex strategies that combine nonviolent forms of force including economic, educational, political, psychological, social, moral, spiritual, and physical forms of force. He suggests systematic strategies, including reducing the opponent's fear, avoiding cornering the opponent, avoiding retaliating, satisfying just grievances, understanding the meaning of their attack, removing pressures, using mediators, designing win-win solutions, etc., including some harsher nonviolent approaches when the more positive ones do not work. Since there is no concept to

describe bloodless forms of force, Perlman has coined the term ‘Metaforce’ which is not passive, and similar to the Indian terms ‘ahimsa’ and ‘satyagraha’ (refered to by Gandhi).

Strategies	Strategic Objectives	Tactics
I. Reduce the opponent’s fear.	A. To achieve I, avoid cornering the opponent.	1. To achieve A, avoid nuclear retaliation initially. 2. Fly prominent people to opponent’s capital to negotiate issues and to show that you will not fire nuclear weapons there.
II. Remove inappropriate pressures that may have caused the attack.	B. Establish whether the attack was defensive or offensive.	3. Satisfy the opponent’s just grievances. 4. Using mediators, seek win/win solutions to other grievances.
III. Get opponent nationals to de-escalate the attack.	C. Establish communication with every possible person and organisation in the opponent’s country or group.	5. Use all forms of communication, including computers, television and ballooned messages.
	D. In the opponent’s country, call out higher, antinuclear loyalties in the people than their loyalty to the initiators.	6. Use the facilities in 5 to appeal to loyalties, such as religion, ideology, common decency, legitimacy, law, country, faction, social class, sensible military doctrine, and identity.
	E. If the reason for the initiators’ nuclear attack is a fabricated threat, show its falsity.	7. For the present, avoid placing nuclear weapons on alert and publicise this decision. 8. Reveal evidence of the threat’s falsity even if the evidence is classified.
	F. If no reasons for the attack are given, the victim group of country can show that it is not a threat by non-violently discomforting itself.	9. Publicly destroy a few of your own nuclear weapons. 10. Ask the president to invite all who believe that their country does not pose a severe threat to the adversary to hold a discomforting short general strike to convey lack of threat. Televise the general strike.
	G. Draw upon and establish bonds.	11. For reconciliation, re-establish past bonds, such as people-to-people programmes. 12. Urge people with whom bonds have been made and who have ties with the initiators to work for de-escalation. 13. Use propaganda domestically and in opponent’s area to avoid dehumanising each other.
	H. Counter the initiators’ arresting and killing of their domestic opposition.	14. In opponent’s area, encourage security procedures normally used by *coup d’état* plotters. 15. Encourage opposition by

		organisation leaders who can arrange non-support by their entire organisation. 16. Encourage non-supporters to seek protection from their country's sympathetic military personnel.
IV. Add pressures.	I. Show how much other countries or groups oppose the attack.	17. Poll countries and groups.
	J. Ostracise the opponent.	18. Remove the opponent's influence on countries and international organisations.
	K. Employ economic pressures.	19. Suspend trade with opponent except for food and medicine. 20. Exert pressure through international instruments, such as the World Bank and foreign influences on national banks. 21. Show how the attack could harm the attacker's nationals and their property.
	L. If the initiators demand capitulation enforced by the threat of nuclear attack, counter-threaten with strategies III-V all at once.	22. Broadcast a simulation of strategic objective L to the opponent.
V. If domestic opposition in opponent has become strong, encourage them to bring about de-escalation	M. Encourage the opposition to depose, arrest, and replace the initiators.	23. Give domestic opposition resources to depose the initiators through constitutional procedures, non-violence, or a *coup d'état*. 24. Offer attractive terms for peace.

Chart 4: "Nonmilitary responses to nuclear threat or attack", Richard Wendell Fogg, Center for the Study of Conflict in *Peacemaking*, ed. Judith Pressler and Sally J. Scholtz.

Finally, a Global Nonviolent Peace Force is being developed to reduce tension and prevent violence so other strategies can be used to solve problems. It is based on a body of literature about the success of nonviolent accompaniment and other strategies that have prevented violence around the world. An example of a conscious, creative positive feedback spiral is the one described by Charles Osgood of "Graduated and Reciprocated Initiatives in Tension-Reduction", known as GRIT in *Disarmament Demands GRIT* (1981). These strategies reduce and control international tension where mutual tension and fear can be interrupted and the de-escalation process begin through an atmosphere of mutual trust and conciliatory moves. There have been some historical cases where this has been applied successfully as part of a complex strategy in tension reduction and violence prevention.

After analysing thirteen effective conflict prevention and resolution measures, Dr Scilla Elworthy concludes in the report “Cutting the Costs of War: Non-military Prevention and Resolution of Conflict” (March 2004) that ways of dealing with conflict and aggression that do not necessitate the use of further force are often more effective and vastly cheaper than the use of military force. This report gives one more reason to turn to alternatives to war and strength.

Conclusion

Nuclear deterrence is not a security strategy adapted to the current world. On the contrary, it is provocative and decreases security. McNamara, an experienced man, stresses that a nuclear war cannot be won (2005). Nuclear weapons have no military utility and provide no guarantee against unlimited escalation. Further, still giving them a political role is treating them as any other weapon, legitimising them "among leaders of other nations who view them as symbols of power and as deterrents against their use by the US or other nuclear powers" (Pilisuk & Rowen: 2). Besides, pointing guns at each other is not peace. In reality, nuclear weapons are symptoms of a problematic relationship that contributes to the need for nuclear weapons.

The Canberra Commission insists that countries do not need nuclear weapons to live in peace (68). Germany and Japan do not suffer from being non-nuclear, nor Brazil or South Africa. Their stature as recognised nations on the international scene does not depend on the possession of nuclear weapons. India did not understand this change. In 1974, the Indian people were very proud of the successful nuclear test. This was the sign in their eyes that India had the same technical and scientific development as other nuclear states. To denuclearise now would hurt the state's pride.
However, the P5 had their permanent seat at the UN Security Council for other reasons than their nuclear arsenal. Having nuclear weapons has thus nothing to do with carrying weight in international affairs. China set an example by being the sole nuclear state to be officially represented at the Canberra Commission. The signature of Its Ambassador Qian Jindong, Vice-President of the Committee of Foreign Affairs of the political conference consultative of Chinese people, means China's approval of the conclusions of the report (36).

"Violence can succeed, as we know very well from the conquest of the national territory. But at terrible cost. It can also provoke greater violence in response, and often does" Chomsky writes (2005: 26). Our current international system itself is at fault. The terms that underpin this system – such as political realism or sovereignty – induce one to see relationships only in terms of a power struggle and to disregard the satisfaction of human needs. But as Burton established, when human needs are frustrated, we cannot simply control behaviour by deterring: human needs for security, food, clean water and other basic needs are stronger and will always prevail in the end. Long-lasting peace and

harmonious relationships demand that we move towards human security in the face of national security.
Accomplishing such a change requires another change in our approach to ‘others’. We are accustomed to think not in terms of humans but in terms of ‘group’, ‘community’, ‘nationality’ (‘French’, ‘Russian’, ‘American’, etc.) – hereby opposing one group against another. We should be able to think of ourselves as human beings. We should believe we can reach an agreement through discussion. We should be able to take others’ interest and needs into account instead of resorting to force and imposing our will upon others. We do not need to be the strongest to be safe.

Nowadays we know techniques that decrease tensions and increase global security in an interdependent world without use of force. Such solutions will decrease proliferation, prevent wars from erupting while increasing security. They are also less expensive and will free money to invest in tackling the roots of conflicts and invest in the satisfaction of basic human needs.
Some alternative techniques of security are quickly presented and emphasise prevention. Others advise empathy and taking the other’s interests into account. It is efficient if all the parties follow the advice. But if one gets self-interested and narrow-minded, conflict management techniques cannot operate. We need to get ready and find another strategy that is non-provocative and respectful of rules and the balance of power.
The United Nations is a potentially good place but it depends too much on a group of countries which is why it is currently being reformed. The UN must become representative, authoritative, and respected to provide long-lasting solutions.

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