

Nuclear deterrence — the permanent and the changing

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Nuclear deterrence, though much changed, is as relevant today as ever. If its material and manner of application have evolved, its usefulness has not and it is, in a word, just as necessary today as it ever has been—perhaps more so—and will remain so for the foreseeable future. Nevertheless, the question of employment of nuclear weapons needs to be thoroughly reviewed, with emphasis on the characteristics that future nuclear weapons should have and the doctrine for their use. The balance to be struck between nuclear deterrence and deployment of conventional forces on one hand, and missile defence on the other, is also discussed, as is deterrence in a broader sense—how it might operate in a variety of circumstances, given the absence of structures comparable to those of the Cold War era, and how to formalise the conditions.

As part of its strategy of geopolitical synergy, www.diploweb.com is pleased to present this article, which first appeared in *Défense nationale et sécurité collective*, November 2009, pp. 109-20.

UNTIL RECENTLY, nuclear deterrence was not a fashionable topic of conversation. The fall of the Berlin Wall, the break-up of the USSR and the appearance of asymmetric warfare and terrorism as patterns of armed conflict in the closing years of the last century and the opening years of this, all gave the so-called new strategic thinkers cause to persuade us that nuclear deterrence was at best an outmoded concept, at worst a dangerous artefact of the past. And yet . . .

Deterrence remains as relevant today as ever

Deterrence is as old as man himself. It is founded on a set of unchanging aspects of human behaviour, regardless of era, civilisation, beliefs or political system, whose nature is such that men and governments take into account the probable consequences of their intentions and actions before putting them into practice. Because of this, they generally tend to refrain from taking action where the negative consequences for themselves, the cause they support or the interest they defend, risk outweighing the potential gains. Put another way, in the language of game theory, deterrence is founded on cost-benefit analysis. [1] What make nuclear deterrence so special are the intrinsic characteristics of nuclear weapons. [2] Their destructive capability is such that only the most perfect protection against their effects would guarantee that an aggressor's cost-benefit analysis would favour a gain on his part. Perfect protection, however, simply does not exist.

The role of nuclear weapons and nuclear deterrence is neither limited nor even principally intended to deter the use of nuclear weapons. According to the concept developed in the West over the past 60 years, at least, it is rather to deter war itself, as well as the use of those traditional tools of the pre-nuclear age, intimidation and blackmail, backed up explicitly or otherwise by military force. [3] In this respect, twentieth-century experience in Europe and Asia should make us bear three things in mind. The first is that, other than war itself, countries wanting to challenge world order have repeatedly used intimidation and blackmail, whether or not openly backed up by military force, as a substitute for war or, more often, as a prelude to it. In today's world the spirit of war has virtually evaporated from Western or Westernised societies, which have become pacifist to a degree never before achieved in history. In them,

the employment of institutional violence, whatever the context, be it domestic or external, is subject to widespread suspicion. [4] In such circumstances, intimidation and blackmail can be used insidiously to achieve political aims or to acquire or create spheres of territorial influence. [5]

Second, it is worth remembering that the reality of the warfare we call *conventional* is quite horrifying. The conventional wars waged between 1914 and 1945 led to 80 million deaths. Even what is today given the jarring euphemism of *low-intensity conflict* can lead to the death of hundreds of thousands of individuals. Given the developments in technology, a large-scale conventional war would be a terrible catastrophe.

The third and perhaps most important point is that such a large-scale conventional war is in itself one of the most probable paths to nuclear war. Scenarios in which nuclear war could be unleashed by accident or as a result of a series of technical errors have no plausibility whatsoever. In terms of their release for use, nuclear weapons are the best-protected and most controlled category of armament in existence. [6] On the other hand, escalation of an armed conflict from the conventional to the nuclear level is an ever-present possibility, especially if the conventional forces of a nuclear weapons state should find themselves facing catastrophic defeat, or if an armed conflict threatens the survival of the regime of one of the combatants, or indeed if one of the parties wrongly evaluates the determination of the other party or parties. [7]

Thus the first objective of deterrence, and in particular nuclear deterrence, is the prevention of all major conflict, nuclear or conventional. For this, it remains as relevant today as ever.

Nuclear deterrence as part of overall deterrence

Exercising nuclear deterrence alone is not sufficient to deter conflict, for two main reasons. The first is that, to be effective, deterrence has to be proportional to what is at stake in a given conflict. This, in turn, raises the issue of possible circumvention of nuclear deterrence, one that was the subject of much debate in NATO in the years up to the beginning of the 1960s, when it led to a change in Alliance military doctrine from massive retaliation to flexible response. The doctrine of flexible response stemmed from work by Kissinger, [8] Taylor [9] and Schelling, [10] was formalised at the Athens summit in 1962 and became official doctrine on adoption of MC 14/3 by the Military Committee in 1967. Its basic principle was that, in order to be effective, the Alliance deterrent posture had to put a potential aggressor in the position of taking a decision on whether to escalate from the conventional to the nuclear level. [11] To achieve this, NATO had to have sufficiently well-organised conventional forces to resist any Warsaw Pact aggression in such a manner that responsibility for escalation, and hence for starting nuclear war, would rest with the USSR and not the Alliance, within which it would in any case have been very difficult to gain agreement on the point. The Americans suspected that the Europeans would have wanted to drag them into an intercontinental nuclear exchange as soon as possible, and the Europeans suspected that flexible response was simply a planning tool for limiting any nuclear exchange to European soil.

The question of circumvention of nuclear deterrence is still alive today, even though the problem is presented in rather different terms. Western countries are now far more at ease than they were at the time of the Cold War, an era in which, to quote General de Gaulle, the

Warsaw Pact divisions were just 'a step away from doing the Tour de France' and Soviet nuclear forces were directly threatening the United States. Today, the theatre of war has largely been removed from Europe and the very survival of the European continent is no longer at stake, any more than that of the United States. However, the question remains how to exercise deterrence in operational theatres in which what is currently at stake does not always justify its nuclear aspect. For sure, the shadow cast by Western nuclear deterrence is a strong encouragement to prudence on the part of those countries wishing to upset the regional or global balance through the use, or threat of use, of military might, but it is also proof, if proof were needed, that the question of what should be the structural link between the conventional and nuclear levels of deterrence is just as valid as it was in the era of flexible response, if not more so. Recent conflicts and operations in Afghanistan, Iraq, Georgia and the Indian Ocean have taught us that it is vital for the West to have sufficiently substantial, diversified and effective conventional forces to be in a position to face up to attempts to destabilise a country (politically, as in Georgia), or an entire region (Afghanistan), or to asymmetric conditions as in Iraq, Afghanistan and the Indian Ocean.

Despite these lessons, developments in Western armed forces since the end of the Cold War are hardly encouraging. While operations in theatres sometimes far removed from Europe are becoming more numerous, the structure of European conventional armed forces has continued to shrink, and plans for procurement, training and maintenance stand out by their inadequacy in adaptation to new tasks, in capability and in number. This was the subject of lively debate during the preparation of the French White Paper on defence and national security, and has resulted in a policy that it is hoped will succeed. There is little doubt that it will also be examined closely during the United Kingdom's defence review, which is planned to start in 2010. Deterrence is universal and today its many components have to be developed in a balanced manner. We are no longer in an era in which Europeans can resort to the American nuclear guarantee and overlook their conventional forces.

Nuclear deterrence and missile defence

As a result of renewed interest in missile defence, nuclear deterrence is today undergoing a qualitative development that is both positive and negative. Such defence is once again becoming an important element to be taken into account in the equation : it can serve to strengthen deterrence against states that would not hesitate to use conventional assets or even weapons of mass destruction to threaten the West. On the other hand, it also acts as a constraint when determining the size of deterrent force needed to be in a position to overcome potential adversaries' defences—particularly for medium-sized nuclear powers such as the United Kingdom and France.

Missile defence plays an important role in underpinning deterrence, and is a natural complement to it. [12] The nature of the ballistic threat to Western interests has changed over the years, and the threat posed by thousands of Soviet warheads will probably be replaced over the next 15 years by the nuclear warheads of states such as North Korea or Iran, deployed on a relatively small number of medium-range or intercontinental ballistic missiles. Against such a small number of vehicles, even limited defence could contribute to a significant reduction in the vulnerability of the European and American continents, and therefore to deterring a rogue state from attacking them. [13] The problem, however, is that if anti-missile defence were developed by states that could potentially be the target of Western deterrence, it

could in turn present a problem for the credibility of nuclear deterrence as exercised by the medium-sized nuclear powers (that is, the United Kingdom and France), albeit not the United States—at least, not with the current configuration of its nuclear force. [14] It should be remembered that when the Soviet Union established its missile defence system around Moscow in the 1970s, the United Kingdom and France had to invest massively in penetration aids and MIRV warheads with reduced radar signature in order to give their deterrent forces the continued ability to penetrate those defences, thus maintaining the credibility of threat to targets in the USSR. The programmes concerned included *Chevaline*, the *Trident I* (C4) project, M-4 and TN-71, and later, *Trident II* (D5) and M-45/TN-75. A number of countries, including Russia and China, are developing new ABM systems : little is known of their effectiveness, but it is probably far better than the systems of the 1970s, principally because of the extraordinary technological progress made in the field. In just a decade or two from now, the United Kingdom and France will have to ask themselves what they need to do in order to maintain the effectiveness of their deterrent forces against new missile defence systems.

It is clear that missile defence will be the subject of careful study by the United Kingdom and France in the years to come, particularly since it is hardly realistic to believe that a missile defence system could be organised and deployed on a strictly national basis. It seems likely that such a system would be designed and organised within the framework of NATO, which in turn will create problems of coordination and decision-making on a political level, because of the politically sensitive aspects of sovereignty. [15]

Extended nuclear deterrence—the new order

Extended nuclear deterrence can be defined as the express or implied promise given by a nuclear weapons state to one or more non-nuclear weapons states to bring its deterrent forces to bear to guarantee their security against blackmail, threat or aggression from third parties. Extended deterrence therefore has both political and military dimensions.

During the Cold War the United States, by virtue of the North Atlantic Treaty, gave its Allies a nuclear guarantee against possible aggression by the Soviet Union affecting their territory. Whether the United States would really bring its nuclear forces to bear in order to protect European allies, what is known as *coupling*, has been the subject of recurrent debate within the Alliance for more than 45 years. In the wake of US Defence Secretary McNamara's speech to the Athens conference on flexible response, the lack of credibility of the American commitment was one of France's pretexts for leaving NATO's integrated military structure. In the same vein, during the debate that ran from 1979 to 1987 on the deployment in Europe of intermediate-range nuclear forces capable of reaching Soviet territory, one of the fears expressed by the Allies was that unless such deployment took place, the coupling with US strategic systems would be compromised. [16] But at least the debate took place within a structured alliance, having a formalised framework for consultation and decision-making.

Of course, NATO still exists today, as do formal bilateral alliances between the United States and Japan and South Korea. Nevertheless, the United States is today in a position where the countries that most earnestly seek cover from its nuclear guarantee, whether implicitly or explicitly, have no formal alliance with it. The same applies to a lesser extent to the United Kingdom and France, the latter having developed strategic partnerships with several countries, notably in the Persian Gulf. The most extreme case is Taiwan, with which the United

States, the United Kingdom and France have had no diplomatic relations for several decades. Under these conditions, the response to threats from Iran in particular against states on the western seaboard of the Persian Gulf, or from China against Taiwan, risks raising sensitive issues of the consultation that would be needed between potential or desirable guarantors and those countries who seek the guarantee. For potential aggressors, the situation has both clear advantages and serious risks, in that any consultation on deterrence would take place in the absence of a clear framework of reference with defined limits on action. A situation like this would be unstable and entail many risks, and should not be considered lightly. [17]

Moreover, in the case of blackmail, intimidation or aggression by Iran against the Gulf States, or by China against Taiwan, it seems likely that the first line of defence would be conventional : nuclear weapons must not be the sole element in the strategic landscape. This brings us back to the problem discussed above of how conventional and nuclear forces should be organised. However much the complex yet structured NATO system might be the rule, with its allocation of roles, common training of forces, permanent military staffs and political dialogue between the Allies, it is nevertheless likely that if there were a problem in the Gulf or in the Sea of Japan, consultation would be ad hoc. Confusion and difficulty in achieving rapid agreement on joint action would be the order of the day for the United States and its regional allies. [18]

Taking into account the new strategic situation and the fact that for the foreseeable future it is very unlikely that the United Kingdom or France would put their nuclear forces into action other than in close coordination with the United States, it would seem desirable (if it is not already the case) that the US, British and French governments consider some form of trilateral operational nuclear plan (TRIOP) that would allow them to plan the use, or threat of use, of their nuclear forces in conditions of conflict that involve all three of them. [19] Desirable as such planning might be to bring together the policies of the three countries, it would have to remain confidential because of criticisms of 'the West against the rest' that it would doubtless foster, and also because it would support the argument of states that want all British and French nuclear forces to be taken into account in any negotiations on nuclear disarmament.

Technological progress and conditions of use of nuclear weapons

The mantra that Western political figures have repeated endlessly is that nuclear weapons are weapons of last resort. They exist in order never to be used. Such a declaratory posture, however reassuring and politically acceptable it might be, takes no account of the conditions in which deterrence might be exercised. Quite clearly, they would only be used outside the possessor's own country, and military planners have doubtless set out in detail the conditions in which deterrence would be put into action should it be necessary.

The question of these conditions for use of nuclear weapons should nevertheless be examined, if only because they govern in considerable measure the technological developments that lead to the production of the weapons and the vehicles that deliver them. If there is too great a technological difference between the characteristics and performance of nuclear weapons (which are well known to the military technical community that follows the subject and gets its information from both open and secret sources) and the objectives that are set for them in the context of foreseeable conflicts, nuclear deterrence is put at risk. The nuclear weapon becomes

self-detering, since he who threatens to use it knows in advance that it is not possible for him to do so, or at least only at an exorbitant political, and perhaps military, cost. Moreover, the possible adversary knows this, too, and the entire credibility of the deterrent force is undermined.

In this respect, the British and the French face a particular problem : the size and characteristics of their nuclear forces, such as accuracy and power, impose a number of serious constraints with regard to their use. Put another way, the level of the technology used means that the likely scenarios for use of their nuclear weapons are broadly predictable. Such a situation is scarcely satisfactory, given the increased diversity of threats today. Clearly, if we were to imagine British or French deterrence having to be exercised in anything other than a European context, even though jointly with US deterrent forces, the characteristics of the weapons used would be very different from those targeted, for example, against the vital centres of the former Soviet power. It is sadly probable that the governments of countries such as Iran and North Korea have little regard for the survival of their populations, yet act in general to preserve their own survival. Saddam Hussein had already adopted this position, having had a number of bunkers constructed to house himself and his henchmen in time of war, whilst leaving the Iraqi population exposed. [20]

To protect against such a risk with regard to the credibility of French deterrence, it is essential that, as far as technology is concerned, massive efforts be made to adapt the characteristics of nuclear weapons to the new threats, and especially to potential new targets. We still remember the controversy that a few years ago led to the United States's abandonment of the idea of developing penetrating nuclear warheads known as *bunker busters*, intended to hit hardened targets such as the bunkers in which the leaders of rogue states would hide if attacked. [21] This abandonment, and the British and French refusal to develop such weapons, could be considered a sign of a lack of determination by the United States, the United Kingdom and France to equip themselves with the means to face up to aggressors or those who might potentially foment trouble, and lead them to underestimate the risks of blackmail, threat or aggression against a third party in an area considered strategic to Western security interests. The United States has already made known that it is looking at the possibility of conventional bunker busters but the state of the French, and especially the British, defence budgets precludes such a costly consideration.

At a time when pointed questions are again being asked about the operational and technical credibility of deterrence, the two European nuclear powers are faced with difficult choices. Accuracy and penetration are factors that have significant budgetary impact, and they have to be thought through with great care to avoid ending up with weapon systems whose operational, and therefore political, credibility is reduced purely through not having made the right choices at the right time.

Conclusion

We have seen that nuclear deterrence remains topical. As with anything constructed by man, its nature changes and with it certain fundamental aspects of doctrine that we had once supposed inviolable. In 2001, 2006 and again in 2008, Presidents Chirac and Sarkozy presented some new visions of the use of nuclear weapons and the evolution of our deterrent doctrine. What remains is to translate these visions into weapon programmes that are

sufficiently flexible so that the exercise of deterrence by our country is not limited by technological constraints that reduce its operational, and therefore political credibility.

On this very issue, the results of analyses conducted in the United States for the 2010 Nuclear Posture Review (NPR) are currently being prepared and should be available in January 2010. They will be an interesting indication of probable developments in American strategy, particularly with regard to exercising extended deterrence and the aim of reducing, and eventually eliminating, nuclear weapons. [22] Such development would not be without impact on British and French strategies, even if the particular position of France is maintained for reasons of policies that have been long pursued, relating to independence in scientific, technological and operational matters. [23]

The questions raised over the exercise of deterrence have fundamentally changed. It is to be hoped that they lead to a thorough review without taboo or prejudice by the military, civilian and research personnel concerned. This is the price if nuclear deterrence is to retain its relevance in the face of twenty-first century threats.

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P.-S.

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Notes

[1] Thomas Schelling, *The Strategy of Conflict* (Cambridge, Mass. : Harvard University Press, 1960), and new edition 1980.

[2] Bernard Brodie, *The Absolute Weapon* (Freeport, NY : Books for Libraries Press, 1946). Also, Hermann Kahn, 'The Nature and feasibility of War and Deterrence', *RAND Corporation Paper P-18888-RC*, 1960.

[3] This, despite several Western intellectual incursions on the issue of preventive nuclear war. See Lawrence Freedman, *The Evolution of Nuclear Strategy* (London : Macmillan and IISS, 1989), p. 54 ; Alex Abella, *Soldiers of Reason The RAND Corporation and the Rise of*

the American Empire (Orlando, Fla. : Houghton Mifflin Harcourt, 2008), pp. 35-43 ; Jonathan Stevenson, *Thinking Beyond the Unthinkable : Harnessing Doom, from the Cold War to the Age of Terror* (New York : Viking-Penguin Group, 2007), pp. 12-15. On the Soviet side, deterrent doctrine took far longer to gain acceptance as the model to be followed. (See Wojtech Mastny, *Secret Plan for Nuclear War in Europe Published : parallel History Project on NATO and the Warsaw Pact*, www.isn.ethz.ch, 23 May 2000.) When it became so, the USSR was not far from collapse, in the sense that, apart from its military might, it had nothing to draw upon to combat the West.

[4] See, for example, Alan Cowell, 'Letter from Europe : Afghan War is Casting a Long Shadow', *International Herald Tribune*, 5-6 September 2009.

[5] A good example is recent Russian policy towards Ukraine, Belarus, Moldova and Georgia. In the latter case, it even went as far as overt military aggression.

[6] An explanation of the US system appears in *Soldiers of Reason*, op. cit., pp. 86-7. Fail-safe mechanisms put in place by the Americans guarantee virtually complete safety and security. Similar mechanisms existed in the USSR and still exist in Russia. Comparable procedures are today in place in the other nuclear weapons states with the apparent exception of North Korea.

[7] Michael Quinlan, *Thinking About Nuclear Weapons : Principles, Problems, Prospects* (Oxford : Oxford University Press, 2009).

[8] Who, in *Nuclear Weapons and Foreign Policy* (New York : Norton, 1957), had called the US nuclear doctrine of massive retaliation 'unrealistic'.

[9] General Maxwell Taylor, *The Uncertain Trumpet* (New York : Harper, 1960).

[10] *The Strategy of Conflict*, op. cit.

[11] Justification for this strategy is given in particular by Bernard Brodie in *Escalation and the Nuclear Option* (Princeton, NJ : Princeton University Press, 1966), and also Hermann Kahn, *On Escalation : Metaphors and Scenarios* (Princeton, NJ : Princeton University Press, 1965).

[12] The Americans call this *deterrence by denial*, distinguishing it from *deterrence by retaliation*. See Glenn H. Snyder, *Deterrence by Denial and Punishment, Research Monograph* (Princeton, NJ : Princeton University Press, 1959), and also by the same author and publisher, *Deterrence and Defense : Toward a Theory of National Security*, 1961. Until now, this distinction has been largely absent from French debate on nuclear deterrence.

[13] On this, see (among others) the French *Livre blanc sur la défense et la sécurité nationale* (White Paper on defence and national security ; Paris : Editions Odile Jacob, 2008).

[14] But if those forces were reduced even further, the situation could be different and

deterrence in the broader sense could be called into question.

[15] It is worth reading Bruno Tertrais's cautionary analysis on this in *L'arme nucléaire après la guerre froide : l'Alliance atlantique, l'Europe et l'avenir de la dissuasion* (Nuclear Weapons Post-Cold War : the Atlantic Alliance, Europe and the Future of Deterrence ; Paris : Economica, 1994), pp.102-5.

[16] On this, see David N. Schwarz, *NATO's Nuclear Dilemmas* (Washington, DC : The Brookings Institution, 1983) ; and François de Rose, *Contre la stratégie des Curiaces* (Facing the Strategy of the Curiaces [a reference to a play by Corneille] ; Paris : Julliard, 1983).

[17] See, in *Nuclear Weapons : a New Great Debate*, Institute for Security Studies of WEU, 2001, the chapter by Thérèse Delpech entitled 'Nuclear Weapons : Less Central, More Dangerous ?', which exposes with acuity the dilemmas posed to the exercise of deterrence by the advent of strategic multipolarity.

[18] Coordination with British and French governments would clearly be better, since their forces would be in support of the American force. For the latter, it is more the shortage of locally available assets that would pose the problem because of the limited British and French naval presence in the Indian and Pacific Oceans.

[19] The reference here is the Single Integrated Operations Plan (SIOP), drawn up by the United States in the 1960s to plan the use of its nuclear weapons in time of conflict.

[20] Shyam Bhatia, *Saddam's Bunker can Withstand Nuke Attack*, (www.rediff.com/us/2003/mar/3iraq2.htm), 31 March 2003, and Alastair Leithead, *Inside Saddam's Baghdad Bunker*, (http://news.bbc.co.uk/go/pr/fr/-/2/hi/middle_east/4642916.stm), 24 January 2006.

[21] Jonathan V. Ernest et al., *Nuclear Weapon Initiatives : Low-Yield R&D. Advanced Concepts, Earth Penetrators, Test Readiness* (Hauppauge, NY : Nova Science Publishers Inc., 2005). Agence France Presse, *Rumsfeld Asks for Restoration of Nuclear 'Bunker Buster' Program*, 2 February 2005. Federation of American Scientists website, *Nuclear Bunker Busters are Dangerous, Ineffective and Unneeded*, 26 October 2005. Associated Press, *Administration Drops 'Bunker Buster' Plan*, 26 October 2005.

[22] This subject had been broached during the 2001 NPR—see, for example, Baker Spring, 'The Implications of the Nuclear Posture Review for Extended Deterrence', statement before the Conference of Monterey Institute of International Studies on US-Japan Cooperation on arms control, disarmament, non-proliferation and verification, 27 March 2002. On the 2009 NPR, see in particular Andrew Grotto and Joe Cirincione, 'Orienting the Nuclear Posture Review : a Roadmap', Centre for American Progress, November 2008, and Martin Butcher, 'Obama's Nuclear Posture Review : Putting Flesh on the Bone of his Nuclear Diplomacy', British-American Security Information Council, 25 June 2009. The latter favours an approach convergent with the official objective, set out by President Obama on 4 April 2009 in Prague, to progress towards the elimination of nuclear weapons.

[23] French Presidential Press Office release of President Sarkozy's speech in the SSBN *Le Terrible* on 21 March 2008. On the attitude of France towards the elimination of nuclear weapons, see Bruno Tertrais, *France and Nuclear Abolition : the Odd Country Out ?* (www.carnegieendowment.org/publications), 3 September 2009.