# THE NUCLEAR FACTOR IN POST-WAR DIPLOMACY

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A Dissertation submitted in partial fulfilment of the requirements
for the degree of Master of Philosophy of the
Jawaharlal Nehru University
School of International Studies
New Delhi
1977

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# PREFACE

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This study has been undertaken with a view to examine the impact of nuclear weapons and technology on diplomacy. The period for study is from the Alamogordo test to present day, and the idea is to utilise the generalisations made on the basis of the past experience of the weapon powers to expand on the strategies to be followed by threshold nations. The foreign policy objectives of the nations which "went nuclear" are outlined, followed by a description of the role which nuclear weapons play in attaining it. That is to say, this is a study of the tactics rather than the strategies followed by powers in the realm of nuclear weapons.

There were two main reasons why this particular topic was taken up for study. First of all, it is my belief that this is a topic which is of extreme importance to the world. There should be, in my opinion, a greater realisation of, and concern for, the uses and misuses of nuclear weapons and technology by the superpowers.

"Ah ! How excellent it is,
To possess a giant's strength; but how tyrannous
it becomes, when a giant uses it."

The third world nations are the victims of superpower domination and therefore, it is in their own interest to perceive and combat this threat.

The second reason is my belief that there is a lack of adequate literature on this field. This may appear surprising

in view of the voluminous bibliography attached to the dissertation, but in point of fact, most of the literature is excessively biased in favour of the West. The idea here is to present a different kind of bias.

The format of the study is basically chronological. The United States' and the Soviet Union's nuclear policies are first examined, to be followed by that of the three -nations who subscribe to the theory of independent deterrents. The spread of nuclear technology and the efforts to check it are described. And finally, the alternative strategies followed by the threshold nations. It is hoped that some sort of integrated analytical framework is provided by the methodology followed in the dissertation.

Convention requires that the writer expresses his attitudes during the course of study somewhere in the preface. I have both gratitude and complaints to express. To begin with I would like to thank Dr. Satish Kumar, my Supervisor. Words cannot express my gratitude to him, for I owe him more than I can repay. The other person I am immensely grateful to is Mr. K. Subrahmanyam, former Director of the Institute for Defence Studies and Analyses, who not only acted as my resident think-tank but also checked my dissertation manuscript. For the 18 months of research, I was <u>solely</u> supported by him financially. Dr. Pushpesh Pant also helped

me out of many a tight corner. My thanks to the library staff of the Institute of Defence Studies and Analyses for their help.

It is also conventional to express one's gratitude to the Institution under the auspices of which one pursues one's research. In fulfilment of this ritual, I am afraid that the best I can do is to record that I diligently pursued my M.Phil researches at the School of International Studies. I have nothing more to say.

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# INTRODUCTION

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In 1915, reading Clausewitz, Lenin had observed that war is not only a political act but the ultimate instrument of politics. Since in international relations, the method of conducting international politics is known as diplomacy, it should be obvious that any radical change in the method of conducting a war would have its impact on diplomacy. Lenin's next comment on Clausewitz is relevant in this context for he says that the field of weaponry is an integral, sometimes even an essential, aspect of diplomacy.

The simplest case where weapon innovation would be a function of diplomacy is one where the established power structure is overthrown because of the former. The English established their military and therefore diplomatic predominance in the fifteenth century largely because of their archery. The Swiss infantry did the same in the Middle Ages because of their pikes. Gustavus Adolphus, the Lion of the North, owed his meteoric victories in the third phase of the Thirty Years war, largely to the new mobile artillery. Similarly, the fact that Jean Baptiste de Grebeauval standardised field artillery in 1765 (specifically in the form of 4, 8 and 12 pounders) was responsible for the string of French military successes from Valmy to Austerlitz. A more complex relation between diplomacy and the military has existed in the case of Germany. Germany with adversaries on two fronts was always faced with the problem of ensuring rapid military victories in order to achieve its

its diplomatic objectives. In 1866, for instance, Bismarck was sure that if Austria was not defeated rapidly, a French intervention would be inevitable. Usage of field telegraph for communication and railways for mobilization was partly responsible for the Prussian victory. More crucial however was weapon technology, for when the supreme test came at Sadowa, it was the Prussian breech loading needle rifle which enabled Moltke to sweep through the Austrian ranks - which still clung to the muzzle loading rifle muskets.

With the advancement of science, weapons have become increasingly destructive. There has been a corresponding change in the character of war too. There was a time when the combatants consisted of feudal barons and their retainers (as in the War of the Roses) and the impact upon the population, if any, was indirect. But by nineteenth and twentieth centuries, war was fought between 'nations in arms'. The increasing casualties of the Napoleonic wars, the First and the Second World Wars are testimony to the ever-increasing destructive power acquired by mankind, as well as the intensive and total manner of warfare. This destructive trail reached a climax (in principle) with the application of nuclear fission for military purposes. So much so that a ridiculous situation has been reached where even the possessor of nuclear weapons fears to use it. This study proposes to analyze some aspects of diplomacy which is related to nuclear weapons.

Nuclear diplomacy can be divided, in a very broad sense, into two parts - one relating to proliferation and the other to arms limitation. For no other reason than the need to limit one's area of research, only proliferation diplomacy is considered here. The role of nuclear weapons in the immediate post-war American diplomacy is the natural starting point. Its importance in precipitating the Cold War and the division of Europe is examined, as is the only military usage (in Japan) so far of nuclear weapons. The effect of the Soviet Union achieving nuclear status is also of much interest, especially from the point of view of its providing stability to the international system. The compulsions leading to independent deterrents provides the next theme, which is followed by the examination of the anti-proliferation thesis in terms of technology, diplomacy and security prospects. Keeping in mind the Weberian theses of awareness of one's values and prejudices, it should be stated at the outset, that a conscious case is being made here in favour of using the threat of further proliferation as an instrument to achieve nuclear arms control and disarmament. The underlying assumption is that the history of the last thirty years of nuclear diplomacy clearly shows that nuclear disarmament is not achievable by non nuclear nations unilaterally abjuring nuclear options.

# Chapter I

# NUCLEAR WEAPONS AND THE COLD WAR

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The most unique feature of the Cold War was that for the first time in the history of mankind, a battle for global supremacy between two major powers could not be settled by recourse to arms. In other words, the Cold War remained 'cold'. The military stalemate of the late 1940s in Europe was achieved because the USSR possessed a preponderance in conventional strength while the USA possessed nuclear weapons. The stalemate continued because ultimately, both powers acquired effective nuclear deterrents. Nuclear weapons therefore emerged as the determinant in the Cold War. As Fleming has pointed out, the origins of Cold War lie in the Bolshevik revolution;(1) but in the specific sense of the term, the Cold War started only in 1945.

By the late 1930s, the scientists of the five major industrial powers knew that an atomic bomb was theoretically feasible. There were however enormous practical difficulties. Ironically, the United States, where the first nuclear explosion took place was a comparatively late starter. The major reasons for its success were its enormous industrial and financial resources and its ability to attract scientists from the continent. More than any other country which has conducted a nuclear test the United States owed its success to foreign scientific talent. The influence of nuclear weapons on American

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(1) D. F. Fleming, The Cold War and Its Origins (London, (George Allen & Unwin, 1961).

diplomacy was felt even before the Alamogordo test. By 1945, American policy-makers were almost unanimous in their determination to have a showdown with the USSR over the structure of post-war Europe.(2) What they were undecided upon was the means to be employed in forcing USSR to acquiesce in American plans for Eastern and Central Europe. It was again a near unanimous assessment of U.S. policy-makers at that time that the war time leaderships of Britain and USA had allowed USSR to exercise a degree of influence disproportionate to her power. The new American President, Harry Truman, was having second thoughts not only about the Yalta agreement but also on the Churchill-Stalin agreement which divided Eastern Europe into spheres of influence.

It was the opinion of Averell Harriman, the influential ambassador to Moscow that an immediate confrontation with USSR was desirable, since in the long run it was inevitable. 'Better now than later' appears to have been his motto. This view was shared by Leahy, Stettinus, Forrestal and Grew.(3) Harriman felt that US aid to Soviet reconstruction efforts could act as the necessary lever to pressurise Soviet Union into withdrawing from Eastern Europe.(4) The contradiction between

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(2) Harry S. Truman, Years of Decision (New York, Doubleday Inc., 1958), p.70.

(3) Gar Alperovitz, Atomic Diplomacy - Hiroshima to Potsdam (London, Secker and Warburg, 1965), p.26 Leahy was the Chief of Staff to the President, Stettinus the Secretary of State, Grew the Acting Secretary of State and Forrestal Secretary for Navy.

(4) Ibid., pp.22-24.

USA and USSR had long been recognized by Truman.(5) But fear of USSR concluding a separate peace with Germany and the need of Soviet help in the Japanese theatre had prevented this contradiction from becoming antagonistic. In July 1945, only the second constraint still held and even that, only partially.

The New US President set his course on 24th April when he attacked Molotov for non-implementation of the Yalta accord - as he interpreted them. The same day his Secretary of War, Henry L. Stimson wrote to him: [The atomic bomb] has such a bearing on our present foreign relations and such an important effect on all my thinking in the field that I think you should know about it without much further delay".(5) Elaborating in a memorandum he concluded that "within four months we shall in all probability have completed the most terrible weapon known in human history."(6) Stimson was very confident of success and felt that no major issue could be realistically discussed without the role of the bomb being taken into account.(7) Therefore he wanted a postponement of any discussion with the Russians over the future of the Far East and Europe until the atomic weapon test took place.(8) "Over any such tangled weave of

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(5) Truman, n. 2, p. 86.

(6) Stimson and Bundy, On Active Service in Peace and War (London: Hutchinson, 1950), p. 635.

(7) Truman, n. 2, p. 86.

(8) Stimson's Diary, 16.5.1945. Quoted in Alperovitz, n. 3, p. 57. All further quotations from the Diary are taken from Alperovitz.

problems [the atomic bomb] secret would be dominant and yet we would not know until after that time probably, until after that meeting, whether this is a weapon in our hands or not. We think it will be shortly afterwards, but it seems a terrible thing to gamble with big stakes in diplomacy without having your master card in your hands."(9) - This was Stimson writing in the middle of May 1945.

Truman was to have met Churchill and Stalin to discuss the Polish crisis and the Far Eastern theatre, but following Stimson's strategy of delayed showdown, he postponed the meeting.(10) When the atomic test was delayed, Truman postponed his meeting again. Meanwhile he conciliated the Russians by withdrawing American troops from Austria and compromised on the composition of the Polish government. The American ambassador to Poland A.B. Lane, protested vigorously to his government regarding their weak stand. He wanted the Polish issue to be integrated with the Soviet imposed black-out in South East Europe and both pursued. Truman said that he agreed and "left no doubt as to his intentions to insist on the eventual removal of the Soviet blackout in the countries mentioned."(11)

The strategy of delayed showdown as advocated by Stimson, also had its impact on the Japanese theatre. At Yalta, USSR

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(9) Stimson's Diary, 15.5.1945. Alperovitz, n.3, p. 57.

(10) U.S. Department of State: Foreign Relations: Conference of Berlin (Potsdam), 1945 (U.S. Government Printing Office, 1955, Volume I, p.4.

(11) Joseph Grew, Turbulent Era, vol. II (Boston, 1952), p. 1464.

agreed to enter the war within three months of the defeat of Germany. In return she was promised Sakhalin, Kurilles and control of Manchuria - the last, conditional on the agreement of the KMT government. When the Manhattan project approached success, the United States tried to get a postponement of the Soviet declaration of war in the hope that the bomb would end the war before the Red Army occupied large sections of China. At the same time, it did not want to alienate USSR in case the forthcoming test failed. Even if the test was successful, the Soviet Union's participation in the war could be treated as an insurance in the unlikely event of continuing Japanese resistance after the atomic attack. Byrnes was to say later: "I must frankly admit [that] ... I would have been satisfied had the Russians determined not to enter the war... I feared what would happen when the Red Army entered Manchuria."(12) A War Department report voiced the same reservations about USSR: the war should be ended "before too many of our allies are committed there and have made substantial contributions to the defeat of Japan."(13) So in order to delay Soviet participation in the Chinese theatre until the bomb was ready, the KMT negotiators in Moscow was asked to start negotiations. To quote Byrnes again: "Our purpose was...

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(12) Byrnes, Speaking Frankly (New York, 1947), p. 208.

(13) Quoted in R.S. Cline, Washington Command Post: The Operations Division (Office of the Chief of Military History, U.S. Department of the Army, Washington 1951), p.345.

to encourage the Chinese to continue negotiations.... If Stalin and Chiang were still negotiating, it might delay the Soviet entrance and the Japanese might surrender. The President was in accord with that view".(14) With this objective in view, Truman instructed Harriman to tell T. V. Soong, the KMT negotiator, that he did not believe that the Yalta agreement necessitated the recognition of the Mongolian government.(15) Finally Harriman was asked to relay the message that no Sino-Soviet agreement was to be concluded until the US government was fully consulted.(16)

This then was the international situation when Truman went to Potsdam. The 1944 Churchill and Stalin had reached a territorial accord on the future of Eastern Europe. In his report to his Cabinet, Churchill stressed that the West had to recognize and respect this agreement because it was vital to the Russians.(17) Truman's immediate strategy was not to reverse the settlement. He complained that the Hungarian, Bulgarian and Rumanian Governments were neither responsive to nor representative of their people's will. While he refused to recognize these governments he did not demand that they be changed. Back home in the USA, the Manhattan project was approaching its climax at breakneck speed. Oppenheimer testified later that

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(14) Byrnes, All in One Lifetime (New York, 1958), p. 291.

(15) Truman, n. 2, p. 317.

(16) Alperovitz,, n. 3, p. 124.

(17) Winston Churchill, Triumph and Tragedy (Boston, 1953), pp. 227-33.

"I don't think there was a time when we worked harder at the speed-up than after German surrender."(18)

On 16th July, one day after Truman's arrival at Potsdam, the successful atomic test took place at Alamogordo. Truman now certainly felt that 'he had a hammer on those boys'. He decided to present firmly his demands, unyieldingly reject Soviet ones and postpone the solution until after the Hiroshima attack. In the presentation of his demands, Truman included the immediate reorganization of the Romanian and Bulgarian governments, consultation with representatives of all 'democratic elements' (i.e., euphemism for pro-western parties) and three power assistance in holding free elections.(19) Stimson says of Truman, "He said it [the atomic test] gave him an entirely new feeling of confidence."(20)

Again reports Stimson, "[Churchill] told me that he noticed at the meeting of the three yesterday that Truman was evidently much fortified by something that had happened and that he stood up to the Russians in a most emphatic and decisive manner telling them of some demands which they absolutely could'nt have... He said: 'Now I can understand what happened to Truman yesterday. ...when he got to the meeting after reading this report, he was a changed man. He told the Russians

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(18) U.S. Atomic Energy Commission. In the matter of J. Robert Oppenheimer, Transcript of Hearing Before Personnel Security Board (Washington 1954), p.3223.

(19) Foreign Relations: Conference of Berlin, vol.II, p. 207.

(20) Stimson's Diary, 21.7.1945. Refer Alperovitz n.3, p.150.

first where they got on and off and generally bossed the whole meeting."[21] The report referred to, of course, was that of General Leslie Groves, Director of the Manhattan project who stated that the explosion exceeded even the most optimistic expectations.

It was the intention of the British Government to persuade Truman to recognize the Bulgarian and Romanian governments, since this reflected Churchill's appraisal of the balance of power in post-war Europe. But after being told of the test, the British fully supported Truman's stance. The same Churchill who felt that the 1944 agreement was the best under the circumstances, now felt that the West could dictate to Stalin.[22] Therefore on the issue of the Balkans, reparations and German zonal booty system, the Anglo-Americans simply stated their position and adopted a 'take it or leave it' attitude.[23] Only on the reparation issue did Stalin accept the western offer. The rest were to be 'negotiated' after the Hiroshima attack.

On the 6th and 9th of August, two atomic bombs were dropped on Hiroshima and Nagasaki respectively. The action was justified on the grounds that it saved the lives of many American

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(21) Stimson's Diary, 22.7.1945 Refer Alperovitz, n.3. p.151.

(22) Bryant, Triumph in the West (Collins, London 1959), p.477.

(23) Alperovitz, n. 3, pp. 164-70.

soldiers who were about to invade Japan: 'Okinawa and Iwo Jima had cost 70,000 lives; the mainland might cost up to a million,' was the ostensible justification. But no invasion of Japan was planned till November. In any case, the Japanese were sending out feelers for a surrender accord. Alperovitz, therefore, concludes:

> ...their decision to use the A-bomb was made at a time when the best intelligence and military advice indicated that there were other ways of ending the war without an invasion. As will be shown, the bomb was used not because there were no alternatives, but precisely because American policy-makers wished to avoid the political consequences of these alternatives. (24)

The bomb may have been dropped in Japan but the reason for it was the USSR. Truman, Byrnes, Stimson, Grew, Forrestal, Deane, King and Leahy all wanted to end the Japanese war without Soviet help - or at least before the Red Army penetrated into Manchuria.(25) "...Byrnes said he was most anxious to get the Japanese affair over with before the Russians got in, with particular reference to Dairen and Port-Arthur. Once in there, he felt that it would not be easy to get them out...."(26) Stimson voiced another consideration: "It was of great importance to get the homeland into our hands before the Russians could put in any substantial claim to occupy and help rule it."(27)

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(24) Ibid., p. 110.

(25) Grew, n. 11, p. 1444; Truman, n. 2, p. 425; Stimson's Diary 10.8.45 and Forrestal, Diaries (New York, 1951) pp.55, 70, 78-9; Alperovitz n.3, p.151; King and Whitehall, Fleet Admiral King (New York, 1952), p.606; Deane, The Strategy of Alliance (New York, 1947), p.263, Byrnes, n.12, p.291; Leahy, I Was There (New York, 1950), p.245.

(26) Forestal, n.25, p. 78. (27) -/- ....

Churchill had cabled to his cabinet that "it is quite clear that the United States do not at the present time desire Russian participation in the war against Japan."(28) If further evidence is needed to support this view Eisenhower was to reveal eighteen years later: "I told him [Stimson] that I was against it [the atomic attack] on two counts. First, the Japanese were ready to surrender and it was'nt necessary to hit them with that awful thing. Second I hated to see our country be the first to use such a weapon...."(29)

After Hiroshima, Truman sought a confrontation with USSR on all the major issues of the day. He decided to exclude USSR totally from Japan(30) and refused to allow the Red Army to accept even a token surrender at Hokkaido.(31) He proceeded on a bid to upset the status quo in Europe by his declaration that "these [Balkan] nations were not to be spheres of influence of any one power."(32) The British immediately took up the refrain. Attlee "looked forward with hope to the emergence of democratic governments based on free elections in the Balkans,"(33) while Bevin refused to recognize the new governments till free elections were held.(34) Pro-western right-wing opposition to

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(27) Stimson's Diary, 10.8.45. Refer Alperovitz n.3., p.191.

(28) J. Ehrman, Grand Strategy (London, 1956), p.292.

(29) Newsweek, 11 November 1963, p. 107.

(30) Truman, n.2., p. 432.

(31) Ibid., pp.440-3.

(32) H.S. Truman Public Papers of the President, vol.I, (Washington 1961), p.210.

(33) Great Britain: House of Commons, Parliamentary Debates, 5th Series, (Hansard: London 1945) p. 102.

(34) Ibid., pp.291-2.

these satellite governments in Bulgaria and Romania were given encouragement by the West.(35) But for reasons which will be examined below, the Soviet Union refused to bow down to American pressure.

Before the atomic test, as far as the Western Powers were concerned, the spheres of influence in Eastern Europe had been more or less demarcated. In 1944 Churchill had summed up western hopes when he said that the "arrangements made about the Balkans were, I am sure, the best possible."(36) His reaction after the test was: "We now have something in our hands which would redress the balance with the Russians."(37) In other words, the Russians could now be contained. But contained in what? The father of the containment doctrine George Kennan has repeatedly pointed out that containment did not mean holding the line.(38) The United States, to quote its Secretary of State, had every intention of forcing the Russians back from the Balkans - of rolling them back. The role played by nuclear weapons in formulating this doctrine was crucial. According to Oppenheimer the discussion about the use of atom bomb revolved around "whether there was any hope at all of using this development to get less barbarious relations with the Russians."(39)

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(35) Alperovitz, n.3., pp. 206-10, pp. 216-220.

(36) Churchill, n. 17, p. 288.

(37) Bryant, n.22, p. 477-8.

(38) G. Kennan, American Diplomacy (Chicago, 1951), p.123.

(39) U.S. Atomic Energy Commission Hearings, n.18, p.34.

Similarly, Vannevar Bush is on record as to say that "it [the A-bomb] was delivered on time so that there was no necessity for any concessions to the Russians at the end of the war."(40) It is however Leo Szilard who testifies most explicity on the administration's attitude to the problem: "Mr Byrnes did not argue that it was necessary to use the bomb against the cities of Japan in order to win the war... Mr Byrnes's ... view [was] that our possessing and demonstrating the bomb would make Russia more manageable in Europe...."(41)

Even a superficial glance at cold war history would confirm the view that the West was not interested in a negotiated settlement of the Cold War. The preconditions for negotiations with USSR were such that there was nothing left to negotiate. In "Europe Unite" for instance, Churchill stated the conditions: "Let them retire to their own country which is one-sixth of the land surface of the globe. Let them liberate by their departure the eleven capitals of Eastern Europe which they now hold in their clutches."(42) Acheson, to quote another instance, insisted on change of Soviet position on the UN and outstanding peace treaties, withdrawal from Eastern Europe, stopping national communist parties from overthrowing any regimes, and stoppage of anti-capitalist propaganda. As James

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(40) Alperovitz, n.4, p. 242.

(41) U.S. News and World Report, 15 August 1960, p.69.

(42) Churchill, Europe Unite, (London, 1950), pp.412-13.

Reston observed, if USSR accepted these conditions it would cease to be a communist nation.(43) These exorbitant demands can only mean that the west was not interested in negotiation. That in turn, can only mean that its leaders expected to achieve their objectives without negotiation, i.e., through compulsion. The obvious means of compulsion was the atomic bomb.

It might seem incredible today but there can be little doubt that the Western leaders had serious intentions of implementing the rollback policy. Even as late as 1950, Churchill could say that "no one in his senses would believe that we have a limitless period of time before us. We ought to bring matters to a head and make a final settlement. The western nations will be far more likely to reach a lasting settlement, without bloodshed, if they formulate their just demands while they have the atomic power and before the Russian Communists get it too. I am, therefore, of the opinion that our party is bound to support any firm measures which the Government is found capable of taking".(44) Clearly, what Churchill envisaged was that an ultimatum for Soviet evacuation of Balkans be presented, backed by a threat of nuclear weapons in case of a Soviet refusal. This tendency to treat the atomic bomb as an absolute weapon was a characteristic of most politicians

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(43) New York Times, 19 March 1950.

(44) Churchill, n.42, p. 440.

and strategists of the Anglo-American world at that time. Bernard Brodie in his book: "The absolute weapon" believed that a major power like the USSR would be so devastated by an attack of atomic bombs, launched by USA, that a small invasion force would be all that is required for a subsequent occupation."(45) William Bullit, formerly ambassador to Moscow was even more explicit. "Thanks to the possession of the atomic bomb and an airforce of overwhelming strength, we are today far stronger than the Soviet Union and could destroy it."(46) G.F. Eliots' "If Russia Strikes" was another work which put forward a similar view.(47) As P.M.S. Blackett pointed out, those fallacious doctrines were largely the result of Western strategic heritage. In the 1920s and 1930s the controversy regarding air power was about its viability as a strategically independent force. The Russians and the Germans believed that its primary role should be tactical, in support of the ground forces. The R.A.F. and U.S.A.F. followed the views propounded by General Douhet that bombing would be decisive in future wars because it could destroy the enemy's war-making potential. To regard the atomic bomb as an absolute weapon would be a logical development of Douhet thesis.

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(45) Bernard Brodies, The Absolute Weapon (New York, 1946), p. 94.

(46) W. Bullit: The Great Globe Itself (New York, 1946), p.174.

(47) G.F. Eliot, If Russia Strikes (Indianapolis, 1949).

The Soviet answer to this strategy of the West was two-fold: a) to increase its depth of defence and interception zone; and b) to move its conventional forces as much to the west as possible so as to occupy western Europe in case of a nuclear war. Both these objectives would be achieved by controlling Eastern Europe. Sources as diverse as Issac Deutscher, Vladimir Dedijer and Pietro Nenni have testified that in early 1945, Stalin intended to control only Bulgaria, Rumania, and Poland. But as Blackett pointed out: "The obvious and inevitable Soviet answer to the clearly expounded view of the American fighting services on the value of strategic bombing is to ensure by all means possible, that her effective military frontiers are pushed as far away from the Russian homeland as possible. There is no need to seek ideological motives, however, much these may or may not be present to explain recent events in Eastern European countries bordering Russia. The possession of atomic bombs by America and the implicit threat of their use against USSR provide the reasons for the consolidation of Poland, Czechoslovakia, Hungary, Romania, Bulgaria and Yugoslavia within the Russian sphere of influence".(48) Blackett goes on to quote Walter Lippmann: "The more we threaten to demolish Russian cities, the more obvious it is that the Russian

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(48) P.M.S. Blackett, Military and Political Consequences of Atomic Energy (Turnstile Press, London, 1949), p.73.

defence would be to ensconce themselves in the European cities which we could not demolish without massacring hundreds and thousands of one's own friends."[49] Blackett finally defines the Cold War in military terms: "In anticipation of such a [nuclear] war, both America and Russia are now taking defence measures. On the Russian side, an important part of her defensive measures consists mainly in extending the depth of her defence system.... While on the other hand, American steps include the gaining of bases as near as possible to the Russian homeland. These reciprocal steps constitute the present Cold War."[50]

If United States was serious about implementing the rollback programme - and there is every indication that she was - she had to counter the Soviet conventional forces in Europe and then muster enough atomic bombs to swing the balance in her favour. But unfortunately for her and fortunately for the world, she could not do that. In early 1945 "for a period of months a position of real American [conventional] strength seemed to exist, coupled with an American willingness to cash in on this strength. A Foreign Ministers' Conference for the first time was allowed to adjourn in September of 1945 without enough accommodation of the USSR to facilitate a declaration of agreement.

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(49) Ibid., p. 74.

(50) Ibid., p. 79.

But this strength was not to be maintained for the United States removed a large part of armed forces from Germany in late 1945 and early 1946, so that the Red Army soon would seem capable of sweeping West to the Bay of Biscay."(51)

The reasons for the American reduction of strength in Europe were the domestic pressures for demobilization plus the needs of the Japanese theatre. More important the American public opinion in the immediate post-war years was not in favour of engaging the Russians in a conventional war. Patton for instance, came in for severe criticism when he spoke of fighting the Soviet Union with German help. Even Churchill's Fulton speech created a sensation (indicating that its contents were not yet conventional wisdom) and invited attacks for its 'outmoded balence of power approach.'(52) Even the nuclear aspect of the rollback policy could not be implemented since the USA had exhausted its immediate supply of nuclear weapons after the Nagasaki attack.(53) According to Lilienthal: "From what can be pieced together about the stockpile thereafter, weapons production clearly lagged in 1946 and 1947: some of the facilities erected in the World War II crash program proved to be either inefficient or not very durable, while large number of skilled physicists... left government service. Great

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(51) George Quester, Nuclear Diplomacy (Dunnelen, New York, /1970), p. 13.

(52) D. Horowitz: From Yalta to Vietnam (Harmondsworth : Penguin 1966) p.

(53) "The Balance of Military Power", Atlantic Monthly (Cambridge, Mass.), vol. clxxxvii, June 1951, pp.21-7.

amazement and concern were now several times expressed within the government on the small size of the stockpile, and this perhaps explains why only two bombs were detonated in the test of 1946 (at Bikini) and none in 1947. At various points between 1946 and 1949, moreover, the uranium ore required for nuclear weapons production seem to have fallen into short supply, as arrangements for delivering of such material from the Belgian, Congo and from Canada ran into difficulty.(54) By the time the United States acquired a significant nuclear capability, the Soviet Union too had conducted its first test.

The optimistic predictions about a Soviet rollback in the early years of the Cold War were largely based on the calculation that the Soviet Union would not be able to acquire nuclear weapons for quite a few years. In the page proofs of his book Modern Arms and Free Men (1949), Vannevar Bush had predicted that it would take at least another ten-years for Soviet Union to acquire nuclear capability.(55) It was again on the assumption of a long American nuclear monopoly that the Baruch Plan was put forward. This plan, presented to the UN on 14 June 1946 has often been described as the first real disarmament plan. Western myth has it that the arms race between USA and USSR started because the latter spurned this plan. For this reason, if for no other, the Baruch plan and its Soviet counterpart, the Gromyko Plan require deeper study.

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(54) Lilienthal, David. E., The Atomic Energy Years (London, Harper & Row, 1965), pp. 184-5, 423.

(55) Quester, n. 51, p. 35.

The basis of the Baruch plan was the Acheson-Lilienthal report which was formulated in early 1946. This report proposed the creation of an Atomic Development Authority (ADA) which would control fissile material and nuclear plants throughout the world. But even in the report it was made clear that the USA would turn over to the ADA only in stages. Most important, the report itself pointed out that "should there be a breakdown in the plan at any time during the transition [to a non-nuclear stage], we shall be in a favourable position with regard to atomic weapon."(56) On 14 June, Bernard Baruch presented a stiffened version of the Lilienthal report to the U.N. A total takeover of all nuclear installations by the ADA was envisaged and possession of illegal weapons, fissile material or obstruction of ADA activities would be severely penalized. The most controversial aspect of the plan lay in Baruch's proposal that the veto system in the Security Council should be scrapped. This insistence on waiving the veto contributed to the failure of the plan - which was perhaps the objective. The Soviet Union, still smarting over the defeat in the Security Council over the question of the occupation of Iran, saw in the veto the only answer to a U.S. controlled majority. Baruch plan from their point of view was an attempt to undermine their defensive system. Critics of the Baruch plan have pointed out that the abolition

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(56) D. F. Fleming, n. 1, p. 368.

of the veto was not really necessary. If the United States was really alarmed by Soviet actions, then the latter's veto in the U.N. would not prevent USA from taking countermeasures.(57) And this was precisely what happened in the Cuban missile crisis.

The Soviet objection to the Baruch plan stemmed not only from procedural matters but perhaps also from the fact that plan would be carried out in stages. The first stage would mean that the ADA, staffed primarily by the West, would locate and catalogue all fissile material sources. In the process they would acquire a large amount of military information about the USSR which would not be compensated by Soviet knowledge of the West. And this at a time when strict military secrecy was the only Soviet answer to a possible American nuclear attack. The last stage in the sequence proposed by Baruch was the destruction of existing nuclear stockpiles and stoppage of further production. The implementation of this stage was not time bound but depended on the decision of two-thirds majority of the Atomic Energy Commission. This in effect meant a pro-western decision. The USSR naturally had to consider a scenario where this stage would be postponed until it was accompanied by along with a simultaneous western demand for Soviet evacuation of Balkans. Under these circumstances, it was not surprising that USSR vetoed the Baruch Plan.

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(57) Ibid.

This, according to the conservative columnist David Lawrence, was exactly what the US Administration expected them to do.(58) Blackett too subscribes to this view and in fact relates a episode of a "well known [U.S.] General who, with the Baruch had been putting 'teeth' into the Lillienthal Plan [and] said: 'Now we have made it so stiff that even the Russians wont be fool enough to fall for it'."(59) It is not surprising that the proponents of this 'fake' disarmament plan were also the authors of even more fraudulent 'disarmament' plans a quarter of a century later - in the form of Strategic Arms Limitation and Nuclear Non-Proliferation Treaties. The Soviet Union anyway rejected the plan put forward its own version. The Gromyko plan instead envisaged unconditional, immediate and total disarmament. The U.S.A., as expected, rejected it.

— The next nuclear milestone in the Cold War was the Soviet atomic test in late 1949. In retrospect the Soviet nuclear test is not as surprising as it seemed in 1949. Contrary to western notions, the Soviet nuclear programme was fairly well advanced even in the pre-war period. But the exigencies of war led to diametrically opposite effects. The West spurred its nuclear research in order to defeat Germany. But in Russia, the nuclear programme ground to a halt. Igor Kurchatov for

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(58) New York Sun, 21 June 1946; quoted in Fleming, n.1, p.374.

(59) Blackett, Atomic Weapons and East-West Relations (Cambridge, 1956), pp. 90-1.

instance dropped his nuclear research in favour of a project involving the protection of shipping from mines. Arnold Kramish states "almost all Soviet nuclear physicists whose war-time activity can be traced ... were working on projects directly related to the war and unrelated to nuclear research...."(60) This does not mean that Soviet scientists were unaware of the weapon potential of nuclear fission. As early as 12th October, 1941, Peter Kapitsa told a scientific gathering: "One of the basic weapons of modern warfare is explosive materials. Science demonstrates in principle that it is possible to increase their destructive force by one and a half to two times. But recent years have seen the opening of still newer possibilities - that is, the utilization of internal atomic energy. Theoretical calculation show that whereas a modern high explosive bomb can destroy an entire city block, an atom bomb, even one of a small size, if it can be manufactured could easily destroy a major capital city with several million inhabitants."(61) Two years after this conference, with the return of Kurchatov to Moscow, research in atomic fission resumed in the USSR.(62)

There never was, in the real sense of the term, any atomic secret. If there was a secret, it was that of indus-

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(60) Arnold Kramish, Atomic Energy in the Soviet Union (Stanford, 1959), p. 33.

(61) Ibid., p. 41.

(62) Ibid., p. 98.

trial knowhow and technological skill. The Americans believed that the Soviet Union did not possess the requisite scientific-technical sophistication, and they were proved wrong. But even after successful Soviet atomic test, the US Administration did not believe that the power situation had significantly changed. The Russians could not have had a large nuclear stockpile nor the means to deliver bombs on USA.(63) And after all the United States had decided to go in for the hydrogen bomb, which would dwarf the destructive capability of any atom bomb. In 1952, the first hydrogen bomb test took place, and as in the case of the atomic bomb, even the most optimistic American expectations were exceeded. But the capability for inflicting an unacceptable level of damage on USSR was not yet established, for the first bomb compact enough to be delivered by the B-52 could not tested until 1964.(64)

In the meanwhile, the United States Administration devoted its attention to neutralising the most important aspect of the Soviet deterrent - its ability to takeover Western Europe. Ostensibly to rebuild its own and the Western world's defensive capability,(65) the United States persuaded its NATO allies to massively expand their conventional forces. The Lisbon Plan

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(63) Blackett, n. 48, pp. 49-53.

(64) Kramish, n. 60, p. 127 and Quester, n. 51, p. 91.

(65) National Security Council Paper 68. Quoted in Horowitz, n. 52, p. 260.

of February 1952 provided for 50 divisions by the end of 1952, 70 by the end of 1953 and 97 by the end of 1954.(66) It is equally significant that the United States expected that the Soviet hydrogen bomb test would not take place till 1955.(67) The essential character of the NATO therefore changed from a trip wire force to one strong enough to obstruct a march from East Germany to the Channel. The year of decision was to arrive when the Lisbon plan was implemented enough to enable the NATO to repulse a Soviet conventional thrust. In view of this conventional stalemate, nuclear forces would be a deciding factor and United States superiority in this field would force the Soviet Union to accept western terms and evacuate the Balkans. But the Lisbon Plan was never carried through to its ultimate conclusion. The scenario described above became increasingly implausible as Soviet nuclear stockpile grew steadily. It was finally abandoned in 1954 when hydrogen bombs became liberally available to both sides.(68) There was another reason for the non-fulfilment of the Lisbon Plan. West European nations, with their adequate military intelligence saw no immediate increase in the Soviet threat to their security and therefore successfully evaded their commitments.(69)

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(66) Rostow, The US in World Arena (Harper, New York, /1960), p. 332.

(67) Quester, n. 51, p. 90.

(68) Blackett, Studies in War (Oliver and Boyd, London, /1962), p. 157.

(69) Schelling, Hammond and Snyder, Strategy, Politics, and Defense Budgets (Columbia, 1962), p. 383, p. 524.

This was roughly the situation which the Republican Eisenhower Administration faced in nearly 1953. In May 1953, at the 'Solarium Conference' four broad courses of action were presented to the policy-makers. They were: (1) containment in the Truman style; (2) massive retaliation to be invoked automatically if a certain line was crossed; (3) active 'liberation' operations to foment insurrection in Eastern Europe; (4) negotiations with the Russians in the estimated two years before they too acquired the H-bomb; backed by a firm deadline and threat of drastic action.(70) The fourth alternative was dropped almost immediately and the other three proposals were delegated to a separate task force, on whose reports, the National Security Council Planning Board based a single policy paper. This paper, NSC-162, settled for a contribution of containment but with the primary emphasis on the doctrine of massive retaliation. The American calculation was that once it was recognized that the hydrogen bomb as a weapon made nuclear war unbearable, then USA could hope to maintain the world's political status quo by threatening escalation to such unbearable level. This was precisely what Dulles maintained in his famous address to the Council of Foreign Relations in January 1954.

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(70) Schilling, Hammond and Snyder, n. 69, pp. 383-524. Summarised in Quester, n. 51, p. 90.

> "... before military planning could be changed the President and his advisers, represented by the National Security Council had to take some basic policy decisions. This has been done [in the NSC-162]. The basic decision was to retaliate instantly by means and at places of our choosing. Now the Department of Defense and Joint Chiefs of Staff can shape our military establishment to fit our policy, instead of having to try to be ready to meet the enemy's many choices.... Let us see how this concept has been applied to foreign policy, taking first the Far East."
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> In Korea, this administration effected a major transformation. The fighting has been stopped on honourable terms. That was possible because the aggressor... was faced with the possibility that the fighting might, to his own great peril, soon spread beyond the limits and methods he had selected." (71)

There are two significant features about this doctrine. First and foremost, it is basically a defensive doctrine. The days of rollback were over for USSR too had acquired nuclear weapons. The task was now to maintain the global <u>status quo</u>, which was highly favourable to USA, and to prevent 'communist nibbling actions'. The second aspect was that the doctrine would be effective only as long as American threat of escalation of conventional war to a nuclear one would be credible. This in turn would depend upon the fact that US homeland would be untouched by a nuclear war. For if it was affected, Americans would find a nuclear war as unbearable as any one else and were therefore, unlikely to resort to it.

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(71) <u>Keesing's Contemporary Archives</u>, Jan. 16-23, 1954, p. 13361.

In 1954, the fate of the fisherman of the Japanese vessel 'Fortunate Dragon' revealed to the world the lethality of radioactive fall-out. This indicated that in case of a nuclear war, it was unlikely that USA would remain totally unaffected. But in October 1957 an even more dramatic development took place which dealt a mortal blow to the massive retaliation theory. This was the launching of the ICBM and Sputnik by the Soviet Union, hailed by Mao as the 'east wind prevailing over the west'. As a matter of fact, the east wind did not prevail, it only stalemated the west and ushered in a balance of terror. Since missiles were liquid fuelled and placed in soft emplacements, the incentive for a first strike was very high. To stabilize this delicate balance of terror, as Wohlstetter characterised it, both the superpowers worked furiously to develop the solid booster missile and a second strike capability in the form of submarine launched ballistic missile (SLBM). Once the inevitability of second strike and the consequent mutually assured destruction was conceded by both sides, they perceived a common interest in avoiding confrontation which could escalate to the nuclear level. The first seeds of <u>detente</u> were sown.

# Chapter II

## THE RISE OF INDEPENDENT DETERRENTS: BRITAIN FRANCE AND CHINA

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## THE RISE OF INDEPENDENT DETERRENTS: BRITAIN FRANCE AND CHINA

Independent deterrence, it should be obvious, stems from a position of a nuclear threat and political dependence. It implies a relationship vis-a-vis two powers - one against whom the nuclear deterrence is directed; and the other from whom independence is sought. Out of three cases which we have for our consideration, in two the independence is sought in two cases from USA, and in the third from USSR.

Wolf Mendl, commenting on France has noted that "the ... nuclear weapons were thought of not so much as a 'force de disuasion' as a 'force de persuasion'. French nuclear armament had little to do with military posture against potential enemy, in spite of a good deal of theoretical argument on that subject. However, it had a good deal to do with the French position vis-a-vis her principal allies."(1) It is our contention that the British case and to a lesser extent that of China are basically similar to that of France.

Britain, it is well known, was the earliest nation to start research on nuclear science for military purposes. While the interpretation by Lise Meitner of the Hahn-Strassman experiments had caused a sensation in Britain too, it was not until a year later - in 1940 - that Pierls and Fritsch of

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(1) Wolf Mendl, Deterrence and Persuasion (London, Faber and Faber, 1970), p. 18.

Birmingham University confidently predicted the viability of a nuclear bomb. Here again one may note what British Science owed to foreign scientific and technological inputs in the development of their nuclear weapons. Under the chairmanship of George Thomson, the Maud Committee was set up in April 1940, the report of which was to heavily influence American nuclear efforts. The report indicated that "it will be possible to make an effective uranium bomb ... equivalent as regards destuctive effort to 1800 tons of TNT, which would release large quantities of radioactive substances, and... make places near to where the bomb exploded dangerous to human life for a long period...."(2) "More important for our purposes", the report added: "Even if the war should end before the bombs are ready, the effort would not be wasted, except in the unlikely event of complete disarmament, since no nation could risk being caught without a weapon of such decisive possibilities."(3)

The predominant environment under which the British nuclear policy developed was that of the Second World War. The enormous achievements of German physicists and the tremendous industrial infrastructure of Germany made an atomic bomb not unlikely.(4) Therefore on hearing of the Peierls-Frisch memorandum, the British Government acted fast, the main consideration being

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(2) Margaret Gowing, Britain and Atomic Energy 1939-45 (London, Macmillan, 1964), p. 394.

(3) Ibid.

(4) One reason for the German inability to make an A-bomb was that they concentrated on graphite moderators instead of heavy water.

the necessity to beat the Germans to it. But because of the magnitude of resources involved and Britain's vulnerability to Luftwaffe bombing, the focus of nuclear research shifted to USA. There was, however, an implicit agreement that the two would share equally the results.(5) However as USA overtook UK in nuclear research, Britain herself reduced her own efforts, British contribution to research became increasingly less significant and by 1945, the project was totally dominated by Americans and European scientists who were becoming naturalised American citizens.

The first overture made by the Americans for a joint Anglo-American nuclear project was made in 1941. At this time the British were ahead of the American research programme and therefore they rejected the proposal. By 1942, however, America had pulled so far ahead that Britain reluctantly decided to pool resources. Two meetings in 1942 and 1943, at Hyde Park and Quebec respectively, marked the beginning of their co-operation. Churchill noted: "We could not run the mortal risk of being outstripped in this awful sphere. I strongly urged that we should at once pool all our information, work together on equal terms, and share the results, if any, equally between us."(6)

What Churchill did not acknowledge was that Britain merged her effort with that of USA because if she had not, USA

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(5) R.G. Hewlett and O.E. Anderson, The New World (Pennsylvania 1962) p. 261.

(6) A.J.R. Groom, British Thinking about Nuclear Weapons (London, Frances Pinter, 1974), p. 5.

could have continued on its own.[7] It was not long before the Americans too realized this. The US Military Policy Committee had decided in September 1942 that "premium on speed made the complications of an international venture unattractive, especially as the United States was doing ten times as much work as Britain."[8] Slowly the Americans started restricting information (with the approval of Roosevelt); so that by late 1942, there was an almost total black-out in communication. This was partially lifted by the Quebec agreement of the succeeding year.

The British, however, were not much surprised by these developments and reacted by setting up an independent programme of their own. The chief moving force behind it was Prof. Lindemann who had earlier pointed out: "However much I trust my neighbour, I am averse to putting myself completely at their mercy."[9] The British looked at the problem from two perspectives. The first was the strategic one. "Britain was vitally concerned with being able to maintain her future independence in the face of international blackmail which the Russians might eventually be able to employ" said Churchill.[10] The influential Lord President of the Council, John Anderson, told the Canadian Prime Minister: "...While the war might be over before

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(7) Gowing, n. 2, p. 43.

(8) Leslie R. Groves, Now It Can Be Told (New York, Harper, 1962), p. 263.

(9) Lindemann admitted to Vannevar Bush that post-war military considerations were his primary concern. See A.J. Pierre, Nuclear Politics (Oxford, 1972), p. 42. Also for the quotation above see Gowing, n. 2, p. 97.

(10) Groves, n. 8., p. 132.

the development came, it would be a terrific factor in the post-war world as giving absolute control to whatever country possessed the secret.[11] British scientists were therefore sent to the Chicago Laboratory to acquire familiarity with the Hanford pile, and they in turn, set up an experimental D20 pile at Chalk River which was based on American data.[12] Important theoretical work as also done on plutonium separation.[13] The second perspective was a commercial one. A nation of shopkeepers was acutely aware of the enormous potential industrial value of nuclear reactors.[14] After all, the Imperial Chemical Industries did look after its interests. Summing up the British thinking at that stage, Gowing holds that as early as 1943, "the idea of an independent deterrent was already well entrenched."[15]

In early 1945, the design for large scale PU-239 production had been submitted.[16] By October the same year, Britain had all the requisite theoretical knowledge. But four major operational steps remained: (i) the refinement of uranium ore

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(11) Groom, n. 6, p. 9.

(12) Hewlett and Anderson, n.5, p. 284. Also see R.N. Roseerance, The Dispersion of Nuclear Weapons (Columbia, 1964), p. 52.

(13) Hinton, "British Developments in Atomic Energy", Nucleonics, no. 12, January 1964, p. 8.

(14) Gowing, n. 2., p. 136.

(15) Gowing, n. 2, p. 168.

(16) Jay, Britain's Atomic Factories (London, 1954), p. 21.

(ii) the construction of production reactors (iii) the erection of gaseous diffusion plants and (iv) the building up of chemical separation plants. In August 1947, the first experimental reactor went critical and it took five more years before the first successful test took place. Part of the delay could be explained by the extreme financial difficulties in which Britain found herself immediately after the war. So much so that in 1948, the defence expenditure was a miserable £692.6 million.

In the post-war period, Britain is supposed to have 'drifted' into going nuclear in terms of weaponry. Strictly speaking this is not true. First of all, it should be pointed out that the decision to go nuclear had already been taken during the war. After the war there was no question of taking a formal decision about exercising its nuclear choice. The nuclear programme went forward on its own momentum. If there was a decision to be taken, it could only be to stop the continuation of an interrupted project. Such a decision however was not taken in view of the prevailing international political environment.

Britain was a great power, very conscious of her prestige and power considerations. Nuclear weapons, it was held, were an essential component of a great power's armoury. This feeling was accentuated by the knowledge that the Russians were pushing ahead full speed with their programme.(17) Until the Truman

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(17) Hewlett and Anderson, n. 6, p. 273.

doctrine with British acquescence shattered the myth, Britain still projected herself as the imperial power which had responsibility for Europe, India, Suez, Middle East and Africa. As Beaton and Maddox put it; "The national weapon base was... that of a great power; and in the context, a decision not to proceed with nuclear weapons would have been surprising indeed."(18) The British also proceeded under the mistaken impression that nuclear weapons would lead to a cheaper defence.(19)

The defeat of Germany left, to use a favourite western term, a power vacuum in central Europe. The Soviet Union anxious for its protection extended its boundaries as much towards the west as possible. The Labour government concerned about the fate of political parties which subscribed to an analogous sort of socialism adopted an extremely antagonistic position vis-a-vis the Russians. In a sense it was a continuation of the confrontation between the Socialists and the Communists in the inter war years. The situation, from its view point, was extremely serious, with an active insurgency in Greece and prospects of a similar outbreak in Italy and France. The British were also militarily involved in Turkey, Palestine, Syria, Lebanon, Egypt, India, Burma, Malaya, Iran, Indonesia and Indo-China. In view of her meagre resources and her over-extended forces, Britain had two

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(18) Beaton and Maddox, The Spread of Nuclear Weapons (London, Chatto and Windus, 1962), p. 69.

(19) Ibid., p. 71.

choices: (i) ask the United States to take over control of the western bloc; (ii) acquire nuclear weapons. The promulgation of the Truman Doctrine in view of the leftist threat to the ruling governments in Greece, Turkey and Iran marked formally the handing over of the western leadership by U.K. to U.S.A.

Paradoxically, the decision to exercise one of the two foreign policy options led to the exercising of the weapon option also. By simply acquiring nuclear weapons Britain could not cope with the western defence problem because of her lack of conventional strength and her excessive commitments because of her far flung empire. But once USA shouldered the burden, it became imperative to both influence the direction of American policy and to retain a certain degree of autonomy vis-a-vis the Americans. These twin objectives could be achieved by Britain only by going nuclear. Its nuclear status gave Britain a position of importance so that she thought she would now share the inner counsels of USA; yet she also would remain a 'great power' and thus Britain came to chart a comparatively independent political course till 1956. It is not very difficult to find evidence of the British desire to "hold up their position vis-a-vis the Americans."(20)

Clement Attlee, the Prime Minister at that time is quoted as saying: "It had become essential... we could not allow ourselves to be wholly in their hands, and their position was'nt

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(20) Clement Atlee in Francis Williams, A Prime Minister Remembers (London, 1961), p. 59.

awfully clear always.... We had to look to our own defence - and to our industrial future. We could not agree that only America should have atomic energy."(21) And : "We had to bear in mind that there was always the possibility of their withdrawing or becoming isolationist once again. The manufacture of the British bomb was therefore essential for our defence.... Although we were trying our best to make the Americans understand the realities of the European situation - the world situation - we could'nt be sure we would succeed. In the end we did. But we could'nt take risks with British security in the meantime."(22) Harold Macmillan, the Defence Minister in the Conservative Cabinet agreed with Labour Prime Minister Atlee's views. He felt that the doctrine of leaving nuclear weapons to the Americans "surrendered our power to influence American policy."(23) Atlee was even more explicit in his later years. He told the House of Commons in 1952:

> I do not believe it is right that this country should be absolutely dependent on the USA. That is one very good reason for going ahead with our own work on the A-bomb. (24)

In 1955 he noted:

> I think we have influence in the world. That influence does not depend solely upon /nuclear/

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(21) Ibid., pp. 118-19.

(22) Ibid.

(23) Beaton and Maddox, n. 18, p. 73.

(24) Hansard, 5 March 1952, col. 537.

> weapons although I have found, in practical conversations, that the fact that we do possess these weapons does have an effect on the rulers of other countries. It is quite an illusion to think that it does not have an effect. (25)

Aneurin Bevan, the trade union Socialist and left winger given to a better turn of phrase, remarked: "Unilateral renunciation [of nuclear weapons] would send a British Foreign Secretary, whoever he may be, naked into the conference table."(26)

It is usually assumed that Britain went in for nuclear weapons purely for reasons of prestige. Andrew Pierre writes that "having achieved full membership of the club, Britain was in the next years to develop a rationale for her membership."(27) This is only partially true, because strange thought it might seem today, there were certain strategic constraints operating on the British policy makers. Rosecrance, in his study has briefly summarised these factors.(28) First of all, in 1945, the Americans were not in a position to extend their nuclear umbrella to UK because of the inadequacy of stockpiles. British bombs were therefore not redundant. On the contrary, they were a net increment to western strength. Secondly, there was no delivery problem because she possessed aircraft which could drop 10,000 lb bombs. There was also no consciousness of nuclear retaliation,

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(25) Ibid., 2 March 1955, col. 2179.

(26) Pierre, n. 9, p. 103.

(27) Pierre, n. 9, p. 85.

(28) Rosecrance, n. 12, p.

no understanding of Britain's reduced strength and no belief in the irrevocability of the American strategic lead.(29) In short, there was no cognizance of liabilities, only of assets. But to say that only defence considerations were responsible for, or even predominated in the decision to go nuclear would be an overstatement. The 1956 Suez invasion was a clear indication of impotence of the British nuclear force, of the fact that Britain had been sheltering a white elephant for so long.(30)

One qualification should however be made. The West possesses an irrational conception of a defence force. If a nation could call an agreement authorising the existence of 2500 delivery systems as an arms limitation agreement, then a nation built on similar societal lines and having similar values could also feel the need to possess a nuclear arsenal for its defence. The entire irrelevance of such a force, in the face of massive Soviet nuclear weaponry, in spite of the extension of American nuclear umbrella can only be explained in terms of prestige or stupidity. That is to say, there were defence considerations but they were only of a secondary character, and are totally irrelevant today.

More than any other nation, it is [France] which has put its nuclear weapons to the greatest political use. In the case of France, nuclear weapons symbolise the "independence" aspect of

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(29) Hewlett and Anderson, n. 5, p. 260.

(30) See Hans Speier, "Soviet Atomic Blackmail and the North Atlantic Alliance", World Politics, vol.IX, April 1957, p. 324.

the phenomena of independent deterrent. Because the political edge of the French nuclear sword has been used against the USA, it is popularly held that De Gaulle was responsible for France's nuclear policy. This is not wholy true. As early as 1954 (the year of Dien Bien Phu) the Mendes France/government authorized a secret study project for nuclear weapons and submarines.(31) Subsequent French governments kept up and increased the appropriations. In 1955, Gaston Palewski was granted funds for an explicit military programme and the Comite des Explosifs Nucleares (C.E.N.) was set up. One noteworthy point is that the Defence Minister at this juncture was General Koenig, a staunch Gaullist. According to one fairly reliable source, the final decision to exercise the nuclear option was taken in 1956, just before the Suez invasion.(32) Another source however puts it as mid-1955.(33) The test decision was announced on 11 March 1958 - shortly before de Gaulle's return to power. So while the responsibility for the decision cannot be attributed formally to him, he certainly influenced the decision through supporters in the government and the army. A word of caution here will be in order: the French Establishment always had a strong current of anti-Americanism and was therefore receptive to Gaullist ideas. It was not de Gaulle who converted them, it was they who adopted him.

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(31) Elizabeth Young, Farewell to Arms Control (Hammordsworth: Pelican, 1972), p. 48.

(32) P. Gallois, French National Strategy (Cambridge, Mass., (1960), p. 1.

(33) G. Kelly, "The Political Background of the French A-bomb", Orbis, vol. IV, no.3, Fall 1960, p. 303. Quotes Couve de Murveille's speech to the National Assembly in 1959.

The French displayed a more sophisticated approach to nuclear weapon politics than did the British, for they evolved a strategic theory beforehend, which would justify the exercise of the weapon option. Best stated by Pierre Gallois, the theory doubted the American will to protect West Europe from Soviet aggression in view of the Soviet ability to devastate the American homeland with nuclear weapons.(34) In a more elaborate form of the theory goes on the following lines: The authority of nations depends largely upon the nature of armed forces it possesses. In the modern day world, the ideal weaponry would be nuclear ones, which would discourage an aggressor by threatening him with destruction out of all proportion to what he stands to gain by his aggression. The defence of Europe from Russians would therefore require the use of nuclear weapons. But now comes the punch line: with American cities exposed to a possible Soviet nuclear attack, the deterrent power of the American atomic arsenal can no longer be relied upon because the Americans might feel that western Europe is no worth the destruction of their own nation. Therefore, the major defence organization, NATO, should put its nuclear force under an integrated command. The two Anglo-Saxon powers were opposed to this and by creating a Strategic Air Command retained exclusive control over their arsenal. In view of such developments, France had little choice but to go in for nuclear weapons.(35)

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(34) Pierre Gallois, n. 32,

(35) Wilfred Kohl: French Nuclear Diplomacy (Princeton 1971), p. 131.

But this was camouflage. The real French political objective in making nuclear weapons was to reassert its independence and position in the world. France wanted to return to the concert of great powers from which she had been excluded at Yalta and Potsdam. "France cannot be France without greatness!", said de Gaulle. Such an objective involved more independence from USA as well as demands for more effective voice in NATO strategy. In the period from 1958 to 1960, de Gaulle tried to do precisely this by urging military coordination of global policies by the various western powers. But he was sharply rebuffed by USA.(36) To add insult to injury the Americans suggested the emplacement of nuclear missiles in French soil - but under a two key system.(37)

While displaying pretensions of being a great power at every possible opportunity, France was fairly aware of her limited capabilities. Her ambition was therefore restricted to a pre-eminent position in western Europe. She wanted Germany to remain militarily less powerful; to keep Britain out of the picture altogether; and while America had its uses as a guarantor, it too would not be allowed to dominate. It was because of such a 'weltan schaung' that France was opposed to the German rearmament scheme. It was not a coincidence that with the exception of de Laminat and Crepin, the military personages in France who

(36) Young, n. 31, p. 51.

(37) Kohl, n. 35, p. 131.

opposed the German revival and who were in favour of the bomb were the same. Strong support was also expressed for the nuclear programme by right wing political circles. The National Deputy Pierre Andre was expressing the wishes of the majority when he said: "To recover our rank in the world, to preserve peace, M. le ministre de la Defense Nationale, supply our country with modern [nuclear] weapons that are indispensable."(38) Such people expressed their approval of an anti-American nuclear programme because they had felt betrayed by USA at Suez and Algeria. The army, whose morale was at an all-time low, hoped for a revival of glory to compensate or at least eradicate the humiliations of Indo-China, Suez and Algeria. The mood of the forces was summed up by the remark of its venerable chief, Marshal Juin: "If France had the atom bomb, her rights would not be disputed."(39)

The greatest incentive for the French decision was provided by the example of Britain. Various pro-bomb writers, mainly military figures, pointed out that only nuclear weapons can give independence (from USA) to middle powers; that Britain's 'special relationship with USA was due to this reason; that because Britain had the will and intelligence to make the necessary effort, she established herself as a nuclear power; which disproved the thesis that only the greatest powers can be

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(38) Le Monde (Paris), 17 March 1954.

(39) Kelly, n. 33, pp. 287-88.

nuclear powers; and finally, that France, which had resources similar to Britain could also bear the economic burden of a nuclear force.(40) Ironically, the repeated British comments on the gains of nuclear weapons politics spurred France on its path towards acquiring a similar capability. Typical was such a comment by Macmillan:

> The independent contention gives us a better position in the world, it gives us a better position with respect to the United States. It puts us where we ought to be, in the position of a great power. The fact that we have it makes the United States pay a greater regard to our point of view, and that is of great importance. (41)

If Britain, why not France? This was the question posed by Gallois, Ailleret and other proponents of the bomb. Mendl has further noted that every major step in Britain in the field of nuclear development was met by a corresponding development in France.(42) France too had among her nationals, scientists who had participated in the wartime Anglo-American

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(40) Captain P. J. G. Maurin: "Perspectives Atomiques I and II" in Revue de Defense Nationale, June-July 1954, 706-9, 70-71. In the same journal also see Ailleret, "Applications Pacifiques et Militaires de l'Energie Atomique" in the November 1954 issue and R.J. Debab: "Les Armes Atomiques et la Defense Nationale" in the July 1955 issue.

(41) Quoted in R.E. Osgood, NATO: The Entangling Alliance (Chicago, 1962), p. 243.

(42) Mendl, n. 1, pp. 42-43.

effort. Now in the cold war atmosphere, some of them were regarded as a positive security risk, especially the Chairman of the Atomic Energy Commission, Joliot-Curie, a member of the French Communist Party. The sacking of Joliot Curie by Georges Bidault was an indication of the seriousness of the French nuclear effort. It was also a misteken hope that US aid and data would be available just as they were to U.K. in the finishing stages of its programme.(43)

The decisionof Britain to launch a programme of its own after the Second World War naturally pressured the French to start their own programme. The success of the British atomic test started the debate in French military circles. Finally, it was the search for a military justification for the British deterrent, culminating in the Sandy's White Paper that spurred the Gallois-Ailleret-Maurin-Deban group into evolving a systematic strategic theory in the pages of the Revue de Defense Nationale.

The French independence from USA is now a well established fact. De Gaulle clearly perceived the disadvantages of being allied to a power bloc. He felt that if the Super Powers clash, they would involve their allisnce partners, perhaps 'even against their will. Or else the two super powers would unite to check the powers of other middle-range nations.(44) Therefore

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(43) Ibid.

(44) Kohl, n. 35, p. 125.

he stood for a united powerful Europe free of super power hegemony. To quote his memoirs "to establish this organization as one of the three world powers and if should one day be necessary, the arbitrator behind the Soviet and Anglo-Saxon Camps".(45)

As France's nuclear capability advanced, the distance between her and USA increased. In the period 1958 to 1961, she demanded the extension of NATO's role and her own elevation in the alliance structure. French participation was reduced after the American refusal to accede to her demand. From 1961 onwards, the French support for a union of European nations started increased. These were the years of the Fouchet Plan. By 1965, France felt independent enough to carry out a rapprochment with U.S.S.R. Without an independent nuclear position this probably would have been impossible.(46) A year later, France dramatically withdrew from NATO. To quote De Gaulle again France "is equipping herself with atomic armament the very nature of which precludes her integration [into NATO]".(47)

The important role which nuclear weapons played in ensuring France's autonomy from the Western alliance bloc can be gauged from the repeated demands of France in 1961-62 for a veto over the use of nuclear weapons by any NATO nation.(48)

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(45) Quoted in Kohl p. 126.
(46) Ibid., p. 131.
(47) Ibid.,p.253.
(48) Ibid., p. 209.

Again, during the negotiations for U.K.'s entry into the Common Market in 1963, France brought in the matter to the Anglo-American talks at Nassav on nuclear collaboration. A united Europe was to built up of only those nations which opposed super power hegemony. Britain if she was so anxious to join E.C.M. was asked by France to cancel the impending Polaris agreement and instead revive the Blue Streak Scheme, under Anglo-French Collaboration. Macmillan refused to do so and France then proceeded to veto the British entry.(49)

There was however a close counterpart of France in the socialist bloc - China. No doubt the successful diplomatic use to which nuclear weapons had been put by France was an example to China, but this should not be exaggerated. Chinese nuclear programme had started in the fifties - at a time when the decision on the French nuclear test had not been publicly announced. There is a striking similarity between China and France in their political experiences leading to a nuclear status. The 1958 Taiwan Straits crisis taught China not to depend upon the Soviet deterrent just as the 1956 Suez crisis taught France a similar lesson regarding the US. The similarity goes further. Both France and China refused to allow their dominent alliance partner to place nuclear missiles on their soil under a two-key system.(50) Both of them sought nuclear weapons to ensure greater autonomy within their blocs, but China, for domestic reasons had to

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(49) Ibid., p. 3.

(50) Morton Helperin, China and the Bomb (London, Pall Mall, 1965 ), p. 51.

break away from the bloc system altogether.

Here the similarity ends. France's exercise of its nuclear option was dominated by its desire to join the ranks of 'le grandes.' But China, more than any other nation with the possible exception of USSR, needed nuclear weapons to defend itself against a nuclear adversary. Three times in eight years she was at the receiving end of nuclear threats from USA-Korea in 1950 (51) and 1953 and Taiwan Straits 1958. (52) On the latter two occasions, she had no choice but to give in to these threats. Acquisition of nuclear weapons therefore became essential to the Chinese objective 'of standing up to the world.' (53)

Prior to 1955 at a time when she couldn't spare resources for that purpose, China had always belittled the importance of nuclear weapons. "Can atom bombs decide wars? No they can't. Atom bombs could not make Japan surrender.... Some of our comrades too believe that atomic bomb is all powerful.... but they are wrong." (54) Thus spoke Mao Tse-tung. Statements like "atom bomb is a paper tiger!", "atom bomb cannot be a decisive factor in a war," can be found in abundance in Chinese political writings. Then in April that year a Sino-Soviet

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(51) See Cabell Philips, The Truman Presidency (London, Macmillan, 1960 ), p. 329.

(52) Alice Langley Hsieh, Communist China's Strategy in the Nuclear Era (Prentice-Hall, 1962), pp. 121-4.

(53) See Stuart Schram, Mao Tse-tung (Pelican, 1973).

(54) Quoted in Halperin, n. 44, p. 32.

agreement took place by which the latter undertook to provide the former with research reactors, fissile uranium and other accessories. Chinese scientists were trained at the Institute for Nuclear Research, Dubna, USSR. And most significantly, Dr Tsien Hsue-shen, the rocket specialist, returned from USA in 1955 and was put in charge of the Chinese missile programme.

Considerable mystery shrouds the Soviet motives in providing nuclear aid to China-on a scale unprecedented in history. One explanation assumes that it was a voluntary gesture aimed at cementing Sino-Soviet friendship which had deteriorated after the Korean armistice. China going nuclear would augment the strength of the Socialist bloc as a whole and provide a counterweight to a nuclear Britain in the western alliance. The other explanation hinges upon the struggle for power in the Kremlin in the post-Stalin period and the Chinese making very clever use of it and deriving advantage from it. In that struggle, the influence of the international communists and especially China, was considerable. But whatever the reasons, the 1955 agreement was followed by another one two years later. According to the Chinese, the Soviet Union at this time promised to supply a sample of an atomic bomb and the requisite data for its manufacture but later reneged on this agreement.(55)

The year 1958 was a turning point in Sino-Soviet relations. Apart from crucial domestic happenings like Great Leap

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(55) Peking Review, 15 August 1963, p. 14, quoted in M.H. Halperin, ed., Sino-Soviet Relations and Arms Control (Cambridge, MIT Press, 1967), p.269.

Forward, this period also witnessed the Chinese disillusionment with USSR following the Taiwan Straits crisis. More than anything else, it was this incident which drove home to the Chinese the need for an independent deterrent. For reasons which need not be gone into here, the Chinese Communist regime wanted to establish their control over the Nationalist-held off-shore islands of Quemoy and Matsu, which commanded the entrance to Foochow and Amoy. Shortly before the shelling started, Khrushchev visited Peking. The fact that Peng Teh-huai and Malinovskii participated in the talks and that Chu Teh, Chen Yi and Lin Piao were present during the signing of the joint communique strongly indicated that military affairs were discussed.(56) Yet the fact that communique did not mention Taiwan at all indicates that there was a difference of opinion between the Russians and Chinese on the nature of the American response.

On 23 August 1958, the Communist forces started their heavy shelling of these islands.(57) The United States immediately made it clear that it would aid the KMT forces in breaking the blockade of these islands and would intervene in case of a Communist invasion of these islands. As American naval strength in that area started to build up, the Tass noted the

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(56) A. L. Hsieh, n. 47, p. 122.

(57) For the chronology of the Taiwan Straits Crisis, see Hsieh, n. 47, p. 123; and Halperin, ed., n. 50, pp. 275-7.

arrival of U.S.S. Essex and four destroyer escorts. Two days later, on 31st August, Pravda emphasized that he who attacks China also, in effect, attacks USSR. There were however two significant omissions. USSR did not commit itself to any military response, nor was any mention made of the 1950 treaty. On 4 September, Dulles stated categorically that USA will defend Quemoy and Matsu with all possible means if the KMT proved unequal to the task. The nuclear build-up in the Straits Area continued as emphasized by the New York Times of 6 September. In face of this American response, the Chinese drew back and the next day, Chou En-lai called for the resumption of the Sino-American ambassadorial talks in Warsaw. He also reaffirmed the PRC government's mention to 'liberate' Taiwan ultimately.(58) That he was holding out an olive branch was clear to all concerned. It was only then that Khrushchev made his threat of deterrence:

> As I had noted in my previous message, some American military leaders are even trying to threaten China with atomic weapons.... I must tell you outright, Mr President, that atomic blackmail with regard to the People's Republic of China will intimidate neither us nor the People's Republic of China. Those who harbour plans for an atomic attack on the PRC should not forget that the other side too has atomic and hydrogen weapons, and the appropriate means to deliver them.... (59).

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(58) Halperin, n. 50, p. 276.

(59) New York Times, 20 September 1958.

Years later, this subject was to become very controversial during the Sino-Soviet split. Soviet-sources claimed that it was they who prevented the Taiwan Straits crisis from escalating into a full scale nuclear war. Rebutting these claims, the spokesman for the Chinese government said: "What are the facts? In August and September of 1958, the situation in Taiwan Straits was very tense as a result of the aggressions and provocations by the U.S. imperialists. The Soviet leaders expressed their support for China on September 7 and 19 respectively. Although at that time the situation in Taiwan Straits was still very tense, there was no possibility that a nuclear war would break out and no need for the Soviet Union to support China with nuclear weapons. It was only when they were clear that this was the situation that the Soviet leaders expressed their support for China."(60)

Relationship between the two nations worsened rapidly in the following year. The Soviet Union had offered to station nuclear missiles on Chinese soil provided the warheads were under Soviet control and if China restricted her independent military initiatives especially against Taiwan. China, like de Gaulle indignantly refused the offer.(61) Then in June 1959, the Sino-Soviet split became open "when the Soviet government unilaterally

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(60) Quoted in Halperin, n. 44, p. 58.

(61) People's Daily, 6 September 1963.

tore up the agreement on new technology for national defence... [and] refused to provide China with the sample of an atomic bomb and technical data concerning its manufacture."(62)

By the time the Partial Test Ban Treaty was being discussed, the Sino-Soviet split had becom wide, but perhaps, not yet irreversible. Reacting strongly against the politico-military use to which nuclear weapons had been put to by the USA, (and especially since China was their favourite target), China refused to sign the treaty unless it provided for the total abolition of all nuclear weapons. It warned the Soviet Union that USA would utilize the treaty to mobilize public opinion to prevent other socialist states going nuclear. The Soviet retort was that their strength was enough to protect the entire socialist camp. Obviously the Chinese did not agree. Their attack on the Partial Test Ban Treaty was made at two levels. With immediate political considerations in view, they stated, "The real aim of the Soviet leaders is to compromise with United States in order to seek momentary ease and to maintain a monopoly of nuclear weapons and to lord it over the socialist camp."(63)

At the level of principles: "It must not be said indiscriminately that the danger of nuclear war increases alongwith the increase in the number of nuclear powers. Nuclear weapons were first the monopoly of the United States. Later the Soviet Union

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(62) Ibid.

(63) Peking Review, 15 August 1963, p. 13.

also came to possess them. Did the danger of nuclear power become greater or less when the number of nuclear powers increased from one to two? We say it became less, not greater." (64)

The rest of the story is soon told. On October 16, 1964, the first Chinese atomic test took place. The statement released by the New China News Agency read as follows:

> "This is a major achievement of the Chinese people in their struggle to increase their national defence capability and oppose the U.S. imperialist policy of nuclear blackmail and nuclear threats....
>
> China cannot remain idle and do nothing in the face of ever increasing nuclear threats posed by United States. China is forced to conduct nuclear tests and develop nuclear weapons.... The development of nuclear weapons by China is for defence and for protecting the Chinese people from the dangers of the US launching a nuclear war." (65)

Such statements, while undoubtedly monotonous, by sheer force of repetition, hammer their points home. USA is the enemy. But what of USSR? Since the Chinese claim to be fighting for the cause of the rest of the world against revisionism, and not indulging in plain-and-simple power politics, the omission is understandable.

From the proliferation history of these three nations, it would be appropriate here to make a few generalisations. These could naturally deal with the questions when does a nation go nuclear? The answer is as follows:

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(64) W. Griffith, The Sino-Soviet Rift (Cambridge, M.I.T. Press, 1964) Document No. 7, p. 340.

(65) Quoted in Halperin, n. 44, p. 44.

(i) When it has the necessary economic and technological foundations;

(ii) When it seeks, if not superpower status, at least that of an upper middle class power with the view of establishing autonomy in decision making;

(iii) The decision may be taken either to regain or retain her position of influence;

(iv) When a power has no ally or when it seeks to increase its influence on its dominant ally;

(v) When it enjoys no nuclear umbrella or when it doubts the effectivity of such an umbrella;

(vi) When it is threatened by, or bears an antagonistic relation with a nuclear weapon power; and

(vii) When it does not believe that its nuclear status will increase its vulnerability.

When some, if not all these motivations and conditions are present the incentives to develop nuclear weapons may be overwhelming. In the next three chapters, it is our objective to analyze the policies of nuclear threshold nations in the light of these conclusions.

# Chapter III

## THE NON-PROLIFERATION TREATY

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The Nuclear Non-Proliferation Treaty[1] which came into effect from 5 March 1970, was the logical development of a series of treaties relating to nuclear weapons, sponsored by the two super powers. As the Cold War situation stabilized, these two nations increasingly realized that their areas of common interest was considerable. To use the terminology of the Chinese, the two superpowers were contending and colluding at the same time. The major area of collusion lay in the field of nuclear weapons. The extension of this collusion to wider economic and political fields came to be known as detente.

The first step taken in this direction was the Zorin McCloy Joint Statement of Agreed Principles, on the basis of which disarmament may be negotiated, the text of which was issued in September 1961. It was the precursor to the Strategic Arms Limitation Talks.[2] A series of collateral agreements were then concluded, none of which had any effect on the control of the arms race between USA and USSR. These included the following:

1. The Antartic Treaty 1961, which led to the demilitarization of the Antartica continent.

2. The "Hot Line" agreement 1963, following the Cuban crisis, which was to ensure the prevention of an accidental or miscalculated nuclear attack.

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(1) Hereafter known as N.P.T.

(2) Hereafter referred to as SALT.

3. The Partial Nuclear Test Ban Treaty 1963, which prohibited nuclear tests above ground, underwater and in outer space.

4. The Outer Space Treaty 1967 which banned the placing of nuclear weapons in outer space and in other heavenly bodies.

All these were 'non-armament' agreements which led to spatial restriction in the deployment of nuclear weapons and better communication facilities between the two super powers. The third treaty was the Partial Test Ban Treaty, which in many ways, was the first formal international step to check nuclear proliferation. The basic assumption on which the treaty rested was that weapon research could not be carried on satisfactorily underground by a technologically backward nation.(3) More specifically, it was meant as a hindrance to the Chinese entry into the nuclear club, a fact which the Chinese were well aware.

"With regard to preventing nuclear proliferation, the Chinese Government has always maintained that the arguments of U.S. imperialists must not be echoed... Whether or not nuclear weapons help peace depends on who possesses them. It is detrimental to peace if they are in the hands of imperialist countries; it helps peace if they are in the hands of socialist countries. It must not be said indiscriminatingly that the

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(3) Elizabeth Young, A Farewell to Arms Control (Harmondsworth, Pelican, 1972), p. 86.

danger of nuclear war increases along with the increase in the number of nuclear powers.*(4)

The most significant aspect of the Test Ban Treaty was that the USA and USSR realized their joint interest in avoiding additional proliferation and were, despite the Cold War, prepared to work for it together. This treaty, however, had two flaws. It did not prohibit underground nuclear tests and nor did it ban the design and assembly of nuclear weapons without test detonations.(5) These two loopholes made the NPT inevitable.

The subcommittee of the Eighteen Nation Disarmament Committee on the discontinuance of nuclear tests saw another step taken in the direction of the NPT, when the Soviet and American delegates produced disarmament drafts which showed them to be in total agreement on no transfer obligation on nuclear powers. The thread was picked up by the Irish government which had the rather tiresome habit of submitting regular drafts on non-proliferation to the U.N. General Assembly. Failure to mention dispersal of nuclear weapons led to Soviet abstention on the 1959 draft. A year later, it was the NATO powers which abstained due to the inclusion of a clause relating to

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(4) William Griffith, The Sino-Soviet Rift (Cambridge, M.I.T. Press, 1967), p. 347.

(5) George Quester, The Politics of Nuclear Proliferation (Baltimore, John Hopkins University Press, 1973), p. 29.

the control of dissemination of nuclear information. The 1961 draft was however unanimously agreed upon and became the basis for NPT. It called for the prevention of dissemination of nuclear information, for a ban on transfer of nuclear weapons and for a pledge by non-nuclear nations not to go nuclear. Further negotiations on the subject received setbacks because of the strain in Soviet American relations due to Vietnam and Czechoslovakia and due to the complications caused by debate on the European multilateral nuclear force (MLF).

This last was a much heralded plan by the Eisenhower Administration, the purpose of which was to increase Western Europe's participation in NATO affairs. It was felt that this would go a long way to satisfy European (especially German) aspirations for nuclear status, and yet not weaken USA's control over its nuclear arsenal. Understandably, the Soviet view of the MLF was different. They held that it was a devious method of equipping West Germany with nuclear weapons, under the pretext of a joint European participation. Moscow, it should be remembered has always suffered from an understandable but irrational fear of Germany, stemming from its world war experiences. Suffice to note that in 1955, Soviet Union was willing to neutralise and unify entire Germany in order to keep FRG out of NATO. Kosygin stated his nation's views very clearly in 1961:

> I say in all determination that the spread of nuclear weapons should and must be banned Germany, whether she wants to or not, will have

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> to sign because we have no intention of allowing Germany to gain nuclear weapons, and we will take every possible resolute step to prevent her from acquiring nuclear weapons. (6)

For five years, the debate on the MLF issue delayed the NPT. Supporters of MLF pointed out that it was not fundamentally different from the 'two key' system already in practice. Opponents on the other hand, emphasized its basic contradiction with the spirit of the NPT. The introduction of the Social Democrats into the German Government in 1966 facilitated the US withdrawal of the entire proposal. For another year, serious negotiations took place culminating in the final Non-Proliferation Treaty which was commended by the General Assembly of the U.N. and opened for signature on 1 July 1968. It was to come into effect on 5 March 1970.

Little perception is needed to identify the reasons for the superpower support for the NPT. The possessor of any effective military weapon is naturally anxious to prevent any of its rivals from acquiring the same and thus sharing the advantages accruing from the possession of the weapon. Truman stated this explicitly in his speech to the nation following the Hiroshima explosion:

> Under the present circumstances, it is not intended to divulge the technical processes of production or all the military applications pending further examination of possible methods of protecting us and the rest of the world from the danger of sudden destruction. (7)

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(6) Times, 10 February 1967.

(7) Harry S. Truman, Years of Trial and Decisions (New York, Doubleday, 1955), p. 423.

US policy had been for non-proliferation from the beginning, as evidenced by the 1946 McMahon Act which prohibited the transfer of information or materials which would facilitate proliferation. The next step taken in this direction was the Baruch Plan, which as we have pointed out earlier, had a largely propaganda value but really aimed at preventing the proliferation of nuclear weapons to a second nation. This was followed by the American refusal to further the French nuclear programme and the Partial Test Ban Treaty. U.S.A. undoubtedly did give a fillip to proliferation by aiding Britain in her nuclear programme and by her 'Atoms for Peace' programme. But as we have noted earlier and will explain later this was not in basic contradiction with her non-proliferation policy but constituted attempts at containing the inevitable proliferation - an attempt in which they largely succeeded.

The Soviet Union, once it had achieved nuclear status, was opposed to further proliferation for the same reasons as USA. In terms of its constant struggle against the Western bloc, the NPT was interpreted as plus point; for it denied USA the opportunity of arming FRG or bringing about MLF with nuclear weapons, without conferring a similar disadvantage for USSR. This is due to the fact that Moscow never had any intention of supplying nuclear arms to its Eastern European allies. The fear of a nuclear Germany was undoubtedly the determinant reason for the Soviet sponsoring of the NPT. Significantly, this was the major difference between the first US and Soviet draft on NPT

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(8) On next page -/-

in 1965. The former explicitly provided for a multilateral force while the latter explicitly forbade it.(8) The US withdrawal of the MLF proposal ultimately solved the problem.

Itis not West Germany alone that USSR was uneasy about; for on its other flank lies Japan, another potential nuclear power. The focus however was definitely on the former. As Leonard Beaton pointed out:

> Germany and Japan both share the ignominy of defeat in the Second World War; and they also share the prestige of a great and spectacular industrial recovery... Germany has a fundamental security problem deriving from the continued hostility of the main European power: the Soviet Union. She is divided: and she is determined to end this division. This brings her up against Soviet interests and makes her conflict with Soviet Union real and deep. The Soviets, for their part, are convinced that the main threat to their security comes from any prospect of a resurgent Germany.... None of these considerations apply to Japan.... It is true that Japan fears the Soviet Union and looks to the American alliance for protection against aggression. But the Japanese do not have the sharp political conflict with the Soviets which the Germans have.... The great power which might be expected to retain the bitterest memories and to fear most deeply any resurgence of Japanese power is the United States....(9)

What spurred the two superpowers to expedite the NPT, once the MLF hurdle was removed, was the rapidly growing nuclear

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(8) Quester, n. 5, p. 42.

(9) Leonard Beaton, Must the Bomb Spread? (Harmondworth Pelican, 1966), pp. 54-5.

potential of the third world nations. One symptom of Western concern was the increasing literature on the subject of proliferation churned out in the mid-sixties, two of which were by Beaton himself.(10) It was noted that "inevitably their [the Nth nations] plans for nuclear power for peaceful purposes are overlaid with military consideration."(11) India and Israel were cited as examples of nations delibrately building military options from civil programmes.(12) American policy-makers were not unaware of these developments either. The National Planning Association had published a book entitled '1970 Without Arms Control' in which it predicted the existence of up to 15 nuclear nations by 1970, unless artificial barriers to proliferations were imposed.(13) The most influential nuclear theorist in USA, Albert Wohlstetter was also arguing along similar lines in 1961.(14) It was precisely this realisation that led to the Test Ban Treaty. Consciousness of proliferation dangers increased in the US Administration once the policy of 'flexible response' had been adopted, nuclear weapons removed from forward deployment and understanding developed that nuclear weapons were not merely scaled up conventional weapons but con-stituted a new category of weapons with enormous political

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(10) Ibid; and Beaton and Maddox: The Spread of Nuclear Weapons (London, Chatto and Windus, 1961).

(11) Beaton, n. 9, p. 15.

(12) Ibid., p. 16.

(13) '1970 Without Arms Control' National Planning Association Planning Pamphlet no. 104 (Washington D.C., May 1958).

(14) See H.A. Kissinger, ed., Problems of National Strategy (New York, Praeger, 1965), pp. 186-212.

significance.

One factor further highlighted the necessity of some formal restriction on proliferation. This was the first Chinese nuclear test of October 14, 1964, which demonstrated that even nations with developing industrial base like China could exercise its weapon option. In the eyes of the superpowers, the temptation for the bomb in India, Israel, Japan and Germany must have increased. Active steps were necessary to prevent their succumbing and therefore the NPT.

The doctrinal basis of the NPT, taken at its face value, seems to be a Benthamite criterion of greatest good for greatest number. The near nuclear nations should free themselves from aggressive parochial nationalism and take decisions on the basis of universalist criteria. In practical terms, it has been put in the following form by Marwah:(15)

> "(1) The current nuclear weapon powers, particularly the US and the USSR, are doing all that is circumstantially possible to control the (strategic) arms race, and these efforts should not be further complicated by a horizontal increase of nuclear weapon states.
>
> (2) Internationalist concern demands of all states, but particularly the nuclear threshold states, a rejection of all blandishment and provocations for the development of nuclear arsenals among themselves. The existing nuclear powers are an unfortunate reality and it is necessary for the rest of the world to understand the complex of tensions which disallowes them from eliminating their nuclear arsenals..
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> (3) It would seem impossible for late comers in the nuclear game to match the resources or nuclear effort of the US and USSR. Hence a minor accretion of prestige -/-

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(15) Marwah and Schulz, Nuclear Proliferation and Near Nuclear Countries (Cambridge, Ballinger 1975).

> or a minimum level of nuisance value at best could attend the acquisition of nuclear status by other states. Common sense demands that newcomers weigh their options accordingly."

A simplistic argument in favour of the NPT has been advanced by Quester and Beaton respectively. They seek to establish a directly proportional relation between the number of nuclear states and the danger of a nuclear war.

> Quester: "A world in which many more countries acquire nuclear weapons would be a much less pleasant one. Wars that today kill thousands may instead kill millions; wars that now are averted might instead be launched simply because each side pre-emptively hastens to use its weapons...." (16)

> Beaton: "Many owners means many with the opportunities to use them or threaten their use; it means that many will be threatened by them; it means that there will be difficulty knowing who has been responsible for particular actions....; it probably means measures for arms control will be more difficult to devise....; and it introduces complexity into international bargaining...." (17)

The Non Proliferation Treaty in its final form works down to the following:-

1. Prevents the transfer of nuclear weapons to non-nuclear states or to aid these states to manufacture the weapons.

2. Prohibits receiving transferred weapons, seeking nuclear aid to manufacture nuclear weapons.

3. Enforces IAEA safeguards for verification of treaty obligations.

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(16) Quester, n. 5, p. 1.

(17) Beaton, n. 9, p. 23.

4. Guarantees continuation of peaceful nuclear research.

5. Peaceful nuclear explosions would however be conducted on the soil of a non-nuclear state by a nuclear one at appropriate cost.

6. Further, arms control leading to general disarmament will be pursued.

7. Includes right to conclude regional treaties, propose amendments, hold review conferences and provides for withdrawal from the N.P.T.

Having examined the motives of the sponsors of the N.P.T., the next step is to analyse the views of France and China, the two nuclear weapon powers which refused to be a party to it. The similarities in the approaches of the two nations have been pointed out in an earlier chapter, and here it is suffice to note that the rejection of the treaty stems from their discontent with the working of the international system and the roles assigned to them in it. France and China, both are busy establishing and underlining their independence from their dominant alliance partners. This anti-status quoist attitude is evident in their attitude towards the N.P.T.

France has had a long record of opposition to supranational institutions or treaties which sought to supervise and guide its nuclear conduct. It did its best to hinder a compromise

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(1) [illegible].

settlement between IAEA and Euratom, in the hope that showdown would end as a total victory for IAEA and the liquidation of the latter.(18) Yet this does not explain France's opposition to NPT, for the treaty put not many limitations on France's nuclear policy.(19) This is in contrast to Euratom arrangements which carried out the twin tasks of stocktaking and inspection within France.

The basic objection seems to be that it consolidates the hold of the superpower condominium over the world, by limiting the number of nuclear powers. As M. Couve de Murville put it: the purpose of NPT seems to be 'not to disarm those who are armed but to prevent those who are not armed from arming themselves'. "Proliferation" he noted,

> "is assuredly a problem.... But there is something much more important, which is that those who possess nuclear weapons should make no more and destroy those that they have.... One should not lead the world to believe there is disarmament, where there is in fact only the consolidation of superpower's monopoly.... : I do not wish to believe that it is less dangerous for a great power like the United States, Soviet Russia and later China, to have the power to destroy in the world than to see some small countries possess nuclear weapons which would scarcely be capable of reaching their immediate neighbours." (20)

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(18) Quester, n. 5, pp. 195-8.

(19) France's position would in that case be similar to that of sponsor nations, with little obligation to limit its nuclear arsenal.

(20) Le Monde (Paris), 8-9 January 1967.

Pierre Messmer, the Defence Minister, was still more blunt as he characterized the NPT as 'an attempt to castrate the impotent.'(21) French opposition to the NPT (and the Partial Test Ban Treaty) seems to be so strong that their's was the only AEC of a nuclear power to publicly congratulate India after its 'peaceful nuclear explosion.'

Paradoxically, France also finds its interests furthered by the campaign against proliferation. Despite the fact it never said anything to that effect, it is undeniable that she wanted West Germany to become a party to NPT.(22) In 1969, for example, the French government refused to sign the treaty, yet realised that her interests warranted prevention of proliferation, though her anti-status quo image did not. She, therefore, issued a statement which declared that France "will behave in the future in this field exactly as the states adhering to the treaty."(23)

China, which is committed to a much more open opposition to the superpower condominium, has naturally been more violent in its denunciation of the NPT. It viewed the treaty as an attempt "to deprive the non-nuclear nations which are under US-Soviet nuclear threat of their right to develop nuclear weapons and to place some countries under the US imperialist and Soviet revisionist nuclear umbrella so that US imperialism and Soviet revisionism

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(21) Elizabeth Young, n. 3, p. 107.

(22) Quester, n. 5, p. 196.

(23) Lawrence and Lams, Nuclear Proliferation Phase II, (Wichita, University of Kansas Press, 1974), See Ch. I, p. 24.

may maintain their status as nuclear over-lords."[24] Or as "a malicious conspiracy for the control and enslavement of the non-nuclear nations... to turn these people into their nuclear slaves."[25]

The Chinese Vice Foreign Minister, Chiao Kuan-hua, speaking at the UN towards the end of 1972 explained his nation's opposition to complete nuclear test ban, on the grounds that it would only "hinder countries with few or no nuclear weapons from developing their nuclear capability for self-defence but will not affect in the least the nuclear hegemony of the superpowers."[26]

How seriously these theoretical objections to the NPT were to be taken was a subject of controversy from which two diametrically opposite schools emerged. The first, represented by Morton Halperin[27] felt that China would support proliferation in order to increase world political unrest. To quote Quester it would be a "low cost input with a high return of political confusion."[28] This school took far too literally and seriously the revolutionary image which China presented to the world. Thus Halperin wrote:

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(24) Jen-min Jih-pao, 24.1.1968, cited in Young, n.3, p. 107

(25) Ibid., 3.3.1968, cited in Young, n. 3, p. 112.

(26) Peking Review, 17 November 1972, pp. 5-6.

(27) Morton H. Halperin, China and Nuclear Proliferation (Chicago, University of Chicago, 1966); also see Yuan-li-wu, Communist China and Arms Control (Stanford, University of Stanford, 1968).

(28) Quester, n.6, p. 208.

> ...from the Chinese perspective, the spread of nuclear weapons, while it does pose some long run threat to Chinese leadership of the anti-imperialist bloc, nevertheless probably appears desirable in that it will reduce Soviet-American influence in the world, reduce the prospects of Soviet-American cooperation, and increase the likelihood of violent change in the third world. (29)

Such an analysis misses the conservative trend in Chinese foreign policy - the fact that it intervened in Korea and supported the Vietnamese only because its own national security was involved, the fact that it cautioned against Soviet adventurism in Cuba in 1962, the fact that it has not supported national liberation movements when it clashes with its national interest (as in Bangladesh, Dhofar, French Somaliland, Angola) and the fact that its guiding principle is still the much misinterpreted Lin Piao thesis which is in effect, the Chinese version of 'socialism in one country'.

The second school of thought places greater emphasis on the fact that having joined the nuclear club, China's interests support anti-proliferation in order that nuclear exclusiveness would confer greater prestige on China. Such an interpretation is supported by the absence of any concrete Chinese efforts to undermine the NPT. Regular pronouncements from Peking have emphasized that while assistance from one nation to another is entirely appropriate on peaceful uses of nuclear energy, but that it is best for a nation seeking weapons to develop them themselves. (30)

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(29) Halperin, n 27, p. 35.

(30) Press Conference by Chen Yi. Peking Review, 8 October, 1965, p. 14.

So we have five nuclear weapon nations which in practice all support proliferation policy yet follow different tactics for pursuing their goal. USA and Britain are and have always been the most enthusiastic anti-proliferation propnents. After that comes USSR which while supporting the NPT, leaves the odium attached to enforcing it on the USA and other western powers. Finally there are the two dissenting powers, China and France, which have been trapped by their own past statements emphasizing the virtues of proliferation. France while not signing the NPT has agreed to support its from outside. China, following a cleverer and theoretically more satisfying strategy, attacks the NPT and yet does not undermine it.

The real opponents of the NPT are therefore the ten or so threshold nations who have resisted superpower pressures and not signed the treaty - Argentina, Brazil, Chile, Egypt, India, Indonesia, Israel, Pakistan, South Africa and Spain. The first formal protest by some of these states was made at the Conference of Non-Nuclear weapon states in September 1968. It was pointed out that the NPT represented an imbalance of mandatory obligations between nuclear weapon states and non-nuclear ones. The sponsoring nuclear powers were asked to accord higher priority to total ban on nuclear tests; to halt, reduce and reverse the production of fissile material for weapon purposes and the accumulation of nuclear stockpiles.(31)

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(31) See Marwah and Schulz, n. 15, p. 5.

A more thorough comprehensive and logically consistent attack has been made on the NPT by third world academics, the most prominent of whom is K. Subrahamanyam.(32) Instead of

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(32) a) K. Subrahmanyam: 1) "Can nuclear arms proliferation contribute to world security?" Impact of Science on Society vol. XXII, no.3, 1972, pp. 243-51.

b) K. Subrahmanyam, "Indian attitudes towards the NPT" in S.I.P.R.I. 'Nuclear Proliferation Problems', (Stockholm Almqvist and Wiksell 1974)

c) K. Subrahmanyam, "India: Keeping the Option Open" in Robert Lawrence and Joel Larus, n.23.

d) K. Subrahmanyam, "An Indian Nuclear Force in the Eighties" in Kemp, Pfaltzgraff and Ra'anan: The Superpowers in a Multinuclear World (Lexington, Mass: D.C. Heath and Co., 1974)

e) K. Subrahmanyam, "The Indian Nuclear Test in Global Perspective (India International Centre, New Delhi, 1974)

f) K. Subrahmanyam, "The Indian nuclear explosion and its Impact on Security", India Quarterly, vol.XXX, October-December 1974, no.4, pp. 351-61.

g) Also see K. Subrahmanyam, "The Role of Nuclear Weapons in International Relations" in The Institute of Defence Studies and Analyses Journal, vol. 3, (New Delhi, July 1974, no.1)

h) K. Subrahmanyam, "The Options for India".

i) K. Subrahmanyam, "The Path to Nuclear Capability".

j) K. Subrahmanyam, "Outlook for the Seventies: Strategic and Technological." All these articles are to be found in the same issue of the IDSA Journal. They are products of a joint seminar held by Indian Council of World Affairs and Institute for Defence Studies and Analyses entitled "Nuclear Weapons and Indian Security, on 10 May, 1970 in New Delhi.

k) Refer also to Pierre Gallois, "Indian Nuclear Explosion and India's Security" Foreign Affairs Reports (Delhi) Vol. XXIV, no.6, June 1975.

advocating proliferation purely in terms of national security of the country concerned, this approach attacks the legitimacy and feasibilty of NPT, tries to show that only the threat of further proliferation can lead to serious disarmament negotiations. In short it holds that nuclear proliferation is inevitable so long as there are nuclear powers and they attempt to derive advantages out of their possession of nuclear weapons. It is worthwhile to summarise the arguments of this school. According to it, it is not a coincidence that for almost three decades after Hiroshima, it was only the big Five Powers which had acquired nuclear status. Nuclear weapons conferred on these nations the necessary prestige and deterrent power which enable some of them to follow interventionism. Realizing the value of this big power status symbol, the superpowers made a concerted effort to freeze the status quo. For the value of the membership of the nuclear club would be proportional to its exclusiveness. The conflict of interests between the majority of the nations of the international system and the nuclear weapon powers is fundamental. The latter want to derive maximum advantage from their nuclear statue, while the former, as victims of the latter, should try to prevent them from effectively using nuclear weapons as a diplomatic tool. In order to consolidate their dominance on the international political arena, the two superpowers in association with a third nuclear power sponsored the N.P.T. which has nothing to do with disarmament but only an attempt to freeze

the power structure which was reached after the Second World War.

The doctrinal basis of the Non-Proliferation Treaty rests on assumptions which are questionable to probability of nuclear confrontation is directly proportional to the number of nuclear powers. Secondly it assumes the behavioural standards of the present nuclear powers are widely different from those of the non-nuclear nations. Again, there seems to be a belief or at least overlapping, with those of the non-nuclear nations with regard to proliferation. And finally, the Non-Prolifaration Treaty recognizes one might say and there is very little than the non-nuclear nations can do to pressurise them in this regard.

By subscribing, accepting and not opposing the Non-Proliferation Treaty, the third world only help the super powers to perpetuate threshold nation, who by and large are regionally lose from super power dominance. To the smaller powers, super powers hegemony represents a lesser danger since it would, to a great extent, balance the pressure put by middle range powers.

The "responsibility" of super powers, especially in comparison with potential nuclear powers, is also open to doubt. In fact, their records speak for themselves. The two super powers, need one add, have a long record of interventionism. There are

very few countries which have not been honoured with American presence at some time or the other during the last three decades. Similarly Czechslovakia, Poland and Hungary can testify to the "responsible" character of U.S.S.R. France and Britain are former colonial powers. The former especially can be remembered for her persistent efforts to restore her colonial possessions after the world war. And China, which is the self-styled messiah of the third world, has been characterized by extreme instability, both externally and internally. To say that these powers are more responsible than, say India, is ridiculous.(33)

Similarly the assumption that the greater the number of weapon powers, the more is the possibility of nuclear conflict, does not hold water. If anything, the history of the last three decades proves the opposite. When the United States was the sole possessor of the atomic bombs, it freely indulged in nuclear threat

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(33) How "responsible" the United States is, can be judged by the report that an American pilot by mistake fired a tactical nuclear missile during the Second Indo-China war. See The Hindu (Madras) 21st June 1975. The attack was exposed by two American investigative reporters, Anderson and Whitten. Another illustrative incident was the Davalle episode, which exposed the American indbility to retain control over local commanders. Such a commander who feels that he has a better assessment of the situation than the control authorities could also have decided on nuclear tactical strikes.

against the USSR. The Dullesian doctrine of massive retaliation was a systematised form of such threats. In effect what Dulles meant was that however small or indirect a provocation from USSR, the USA would consider the use of nuclear weapons. The risk of nuclear conflict was highest at that moment. What led to military stability in Europe was not American self-restraint but the acquisition by the Russians of the intercontinental ballistic missile. The USA had become vulnerable to attacks by an external power. In the subsequent world of two roughly equal nuclear power blocs, the doctrine of massive retaliation was dropped and moves for detente were afoot. When a third independent power centre, China (for France and Britain were not totally independent) emerged, the era of confrontation was replaced by an era of negotiation. Thus by an increase of nuclear weapon power centres, the world has become less conflict prone.

The reason for this lies in the tremendous destructive potential of the nuclear weapons. Against a non-nuclear nation a nuclear one can indulge in political blackmail - as USA did against China over Korea in 1953, and again over Quemoy and Matsu in 1958. But when a nation achieves second strike capability, it acquires enough deterrent power to ward off threats from even superpowers. The Gallois thesis underlines this. This doctrine of minimum deterrence advocates that proliferation leads to stability because it effectively deters any aggression by superpowers on other nuclear powers for there are very few

rational objectives for which a nation will risk a nuclear war where the adversary is in a position to inflict some nuclear damage. The change in Sino-US relations and the preeminence accorded to nuclear capability in the non-proliferation treaty bear enough testimony in support of such a conclusion. The USA started negotiating with USSR only after the latter acquired a credible deterrent. Again, it reached a modus vivendi with China under similar circumstances. A nuclear weapon power will only respect another weapon power. China invaded Indian territory to enforce its claim but is far more cautious vis-a-vis USSR with whom it has a similar dispute. Seen in this perspective, considerations of diplomatic leverage and security make it advisable for the third world to reserve if not exercise its nuclear option especially in the case of those states which have conflicts of interests with a weapon power.

Much has been made in the West of the legitimacy acquired by the NPT. It has been signed by 106 nations and ratified by 85. But if one examines the composition of these signatories, they are either members of some military alliance to which the superpowers are a party or they are nations not in a position to exercise a nuclear option. The exceptions are Sweden and Switzerland both of whom have a long tradition of neutrality and little security threat. Yet a case can be made out that both function under the shadow of a military alliance. Of the nuclear threshold nations which are in fact the states at whom

the treaty is really aimed, Argentina, Brazil, Chile, India, Israel, Pakistan, South Africa and Spain, did not even sign the treaty. Egypt, Indonesia and South Korea signed but did not ratify. Only Germany, Iran and Japan did both. The very fact that eleven threshold nations including eight that are normally influenced by USA, are not parties to the treaty reveals the degree of acceptability of the treaty among the nations that count. Much of the legitimacy of the treaty has been eroded by the failure of sponsoring nations to abide by the very limited obligations they undertook under the treaty. This disillusionment of the majority of the signatory nations was voiced in the first Review Conference held in June 1975.

India, operating under various constraints naturally could not adopt the arguments of the kind advanced above, totally. Instead of analysing NPT as a milestone in the struggle between the third world and superpowers and lobbying for opposition to the treaty, it criticised NPT in more moderate terms. The Indian objections to the Non-Proliferation Treaty were listed by Ambassador Mohammed Aziz Hussain at 57th meeting of the First Committee of the U.N. on 14th May 1968. There were as follows:

> "1. The treaty did not ensure the non-proliferation of nuclear weapons but only stopped the dissemination of weapons to non-nuclear weapon-states without imposing any curbs on the continued manufacture, stockpiling and sophistication of nuclear weapons by the existing nuclear weapon states.
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> 2. The treaty did not do away with the special status of superiority associated with power and prestige conferred on those powers which possessed nuclear weapons.

3. The treaty did not provide for a balance of obligations and responsibilities between the nuclear weapon states and non-nuclear weapon states. While all the obligations were imposed on non-nuclear weapon states, the nuclear-weapon states had not accepted any.

4. The treaty did not constitute a step by step approach towards nuclear disarmament.

5. The treaty did not prohibit one nuclear weapon state assisting another nuclear weapon state by providing technical aid.

6. The long period of a quarter of a century provided in Article X of the treaty would appear to endorse and legitimize the present state of affairs and legalise, if not encourage an unrestricted vertical proliferation by the present nuclear weapon powers.

7. Article VI did not create a juridical obligation in regard to the cessation of nuclear arms race at an early date.

8. The treaty imparted a false sense of security to the world.

9. The treaty was discriminatory in regard to the peaceful benefits of nuclear power.

10. The treaty was discriminatory in regard to the safeguards and controls which were all imposed on the non-nuclear states while none whatsoever were imposed on the nuclear weapon states.

11. The security assurances to the non-nuclear-weapon states could not be a quid pro quo for the acceptance of the treaty. This must be obligatory for the nuclear-weapon states." (34)

Even Alva Myrdal, once a fervent protagonist of the NPT later came to realise the true nature of its discriminatory character. In an article appropriately entitled "The Game of Disarmament", she wrote:

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(34) Quoted in Nuclear Proliferation Problems, n. 32(a), pp. 259-60.

> "This split into two discontinuous categories of superpowers and other nations, which has not only become more apparent to us during disarmament negotiations, it has been made even more bluntly manifest by a conscious design on their (superpowers) part. The best example of this is of course... the NPT. what we are -witnessing today, it seems to me, is the emergence of a duopoly of the two superpowers in regard to modern technology, giving them a more and more dominating hegemony over the world affairs." (35)

India explained its opposition to the NPT on the ground that it did not conform to U.N. General Assembly Resolution 2028 of November 19, 1965. This resolution had urged the Eighteen Nations Disarmament Committee to draft the NPT according to the following guidelines:

> "1. The Treaty, should be void of loopholes by which nuclear weapons states, or non-nuclear states, could proliferate nuclear weapons in any form, directly or indirectly.
>
> 2. The Treaty should strike a balance of mutual responsibility and mutual obligation as between the nuclear weapons and non-nuclear weapon states.
>
> 3. The Treaty should comprise an incremental move towards general and complete disarmament particularly in regard to the disarmament of nuclear weapons.
>
> 4. There should be devised practicable means to ensure the effectiveness of the treaty." (36)

In 1968, the Prime Minister of India, Mrs. Gandhi stated that India had not signed the NPT because the guidelines

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(36) India's position on the proposed draft treaty on Non-Proliferation of Nuclear Weapons. (New Delhi, Indian Information Service, 1968.)

-set by U.N. were ignored.[37] Only if Resolution 2028 was to be adhered to, was India willing to change her stand regarding the NPT. Not surprisingly, such an expectation was never fulfilled.

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(37) India News (New Delhi), 29 March 1968.

# Chapter IV

# THE SPREAD OF NUCLEAR TECHNOLOGY

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## THE SPREAD OF NUCLEAR TECHNOLOGY

The 1960s witnessed an anti-proliferation wave sweeping Western academic and political circles. It seemed that suddenly the world had become alive to the dangers of proliferation. There was a realization that many third world nations (the leadership of which was regarded in the West as a mixture of mental backwardness and emotional instability) had become 'dangerously' familiar with nuclear technology and literature. A determined effort was made by the Americans to stop the French from joining the nuclear club - and it failed. The Chinese nuclear test, though somewhat unexpected, had reached too advanced a stage to be susceptible to external pressure. It was decided that the door be bolted before more horses escaped from the stable. Eloquent pleas were made regarding the Nth country problem. Finally they crystallized into the Nuclear Non-proliferation Treaty (NPT) the merits of which were discussed in the previous chapter.

The most ironical aspect of this trend was that the problem was largely of western making. In 1953, the Eisenhower Administration launched the 'Atoms for Peace' programme in an attempt to minimise the stigma attached to nuclear science. The peaceful uses of nuclear fission were highlighted and research reactors distributed on a fairly generous scale. Britain and Canada followed suit, as did France. This combination of bilateral agreements and Atoms for Peace programme led to a large

number of nations acquiring small research reactors, most of which use relatively small amounts of high enriched uranium as fuel and produce insignificant quantities of plutonium. Two important exceptions were Israel (reactor at Dimona) and India (at Trombay). Apart from the noticeable spread in nuclear technology, what gave urgency to the anti-proliferation movement was the Chinese nuclear test. Previously it was assumed that both in terms of technology and resources available, only highly industrialized nations could carry out nuclear explosions. Once this myth was shattered, the argument was: if China could do it, why not India? Or other third world nations for that matter.

Such fears can be best appreciated if one examines the relation between civilian and military nuclear programmes. Till fairly recently, there were many who could confidently state that the link between civilian nuclear power industry and nuclear weapons industry was tenuous.(1) Even apart from the Indian experience, informed opinion has found this thesis unacceptable. According to Biddle:

> "On balance it seems that a civilian nuclear industry provides a strong potential for a weapons industry. This potential consists in a large part of a reservoir of a skilled managerial, skilled and technically trained personnel available for either or both military and commercial industries. It also includes process that are identical for both requirements...." (2)

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(1) See for instance, John Cockcroft, "Perils of Nuclear Proliferation", in Nigel Calder, ed., Unless Peace Comes (New York, Viking Press, 1968).

(2) W.F. Biddle, Weapons Technology and Arms Control (New York, Praeger, 1972). p.77

The significance of civilian nuclear industry is that it can be used as a source for the required radioactive material which not only reduces the lead time but is also considerably cheaper. That is to say, the weapons programme would be a 'spin off' of the civilian programme. "It is very important to understand that by developing atomic energy for peaceful uses you reach the nuclear [weapon] option; there are not two atomic energies," - so says Ernest Bergman, Chairman, Israeli Atomic Energy Commission.(3) Civilian nuclear programmes can also be used, under the present circumstances, as the initial step for a nation which later wants to use its reserved option as a diplomatic leverage.

The various stages in proliferation have been described as follows:

> "The Non-Proliferation Treaty was obliged to offer a definition because it had to distinguish between nuclear and non-nuclear weapon powers. Its choice of a nation which has exploded a nuclear weapon was as good a definition as any other. But while this offered a precise line which was realistic for the purposes of the treaty, it is clearly an unsatisfactory basis for considering the whole problem. The first stage of proliferation to any country - that is to say, the first stage of a nuclear weapon programme - is the acquisition of the necessary scientific technical and industrial resources. A further stage is the accumulation of the scarce and expensive materials which are necessary for nuclear explosives. A separate but parallel stage is the acquisition of the -/-

(3) New York Times, 14 May 1966.

> delivery system appropriate to the military needs of the country. Each of these are a part of the proliferation process and all constitute part of the reality of proliferation for those nations which have decided to produce nuclear weapons...." (4)

The first two steps which Cilinsky names are provided by a civilian nuclear programme. By transitivity of relation, he claims, (with much justification, of course) that a civilian nuclear programme could be the first step of a weapon programme. A further point to be noted is the conventional wisdom holds that the first clear external evidence of a nuclear weapons programme and the development of a strategically significant force could be one of the special vulnerability. Therefore, it is more attractive to divert materials and facilities from a civilian nuclear programme, thus reducing the possibility of reactions which would inhibit that particular weapon production.(5) Looking back at the developments surrounding the emergence of Chinese and French strategic forces this is a highly debatable proposition. Preemptive surgical strikes (assertive disarmament as William Van Cleave and Robert H. Lawrence call it) have been talked about but not resorted to. It is obvious that in a world of many nuclear powers there are many uncertainties involved in

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(4) Victor Cilinsky in Mason Willrich, ed., Civil Nuclear Power and International Security (New York, Praeger, 1971), p. 73.

(5) V. Cilinsky, "Military Potential of Civilian Nuclear Power" in Bennett Boskey and Mason Willrich, Nuclear proliferation; Prospects for Control (New York, Dunellen, 1970), p. 51.

in resorting to such action. Further that would legitimise 'assertive disarmament' of a weaker power by a stronger power and ultimately preemptive first strikes.

A SIPRI publication on the subject also testifies to the high level of nuclear technology available in the market for non-nuclear weapon nations to the extent that it is worth quoting at length:

> "The theoretical design of simple fission weapons can be accomplished provided a few general requirements are met. The first is the assurance that the basic concept will work. This was proved by USA in 1945 and subsequently been confirmed by the UK, the USSR, France and China. The second requirement is the possession of the appropriate nuclear data such as critical masses, the number of neutrons per fission, and so on. While never as accurate as one would like, these data are nevertheless usable. The third requirement is the possession of the appropriate data relating to pressure, temperature and volume of the fissile material. Again these data are either well known or can be approximated with reasonable accuracy. The fourth requirement is a means of estimating efficiency so that the yield can be calculated. In this case, the physics is at hand and available to all. Fifth is the theoretical description of the chain reaction and the numerical means to calculate the neutron distributions, criticalities and multiplication. Much of the standard reactor technology for these theoretical description shows it is

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> incorrect to assert that here is no carry-over from reactor to weapon technology. The sixth requirement is the theoretical and numerical means to calculate the hydrodynamics involved. It turns out that, at least for primitive fission weapons, such calculations are almost textbook examples. The seventh requirement is the possession of computing equipment which is now commercially available. Today one could easily find the required number of first rate physicists necessary for the theoretical design of simple fission weapons... If these requirements are met, and I believe that they can be all the so-called near-nuclear-weapon states a simple fission device can be designed with a high degree of confidence..." (6)

Technical information relating to the production of elementary fission weapon is absurdly easy to require. Apart from the Smyth Report (7) and secondary

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(6) J. C. Hopkins, 'Nuclear Weapon Technology' in SIPRI, Nuclear Proliferation Problems (Stockholm, Almqvist and Wiksell, 1974), pp. 113-14.

(7) H. D. Smyth, A General Accounting of the Methods of Using Atomic Energy for Military Purposes under the Auspices of the U. S. Government (Washington, D.C., Government Printing Office, 1945).

works like 'The New World'[8] and 'Brighter than a Thousand Suns',[9] there are regular reports by the American Atomic Energy Commission. The U.S.A.E.C. also publishes 'Nuclear Science Abstracts', and 'Fundamental Nuclear Energy Research' etc.; while countless number of other periodicals ensure the easy availability of the necessary information for the various stages of elementary nuclear development. There is, therefore, no atomic secret. It is largely a question of the ability to manufacture, and of the willingness to invest the necessary resources.

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(8) Hewlett and Anderson, The New World: 1939-1946 (University Park: Pennsylvania State University Press, 1962).

(9) Robert Jungk, Brighter Than a Thousand Suns (New York, Harcourt, Brace and World, 1958).

It is at this juncture that the reactor technology assumes crucial significance. Selection of reactors is both a restraint and an indication of weapon option exercise. To understand this, an account of the nature of the working of reactors is essential. There are basically four types of reactors in operation - the heavy water reactor in which natural uranium (U-238) is used as a fuel and heavy water as moderator (HWR); the light water reactor (LWR) which uses low enriched uranium as fuel and ordinary water as moderator; the steam generating heavy water reactor (SGHWR) which uses as fuel, very slightly enriched uranium, and the high temperature gas cooled reactor (HTGR) which uses high enriched uranium as fuel. From the point of view of military purposes, it is sufficient here to point a few facts regarding the comparison of various reactors:

1. Regarding power production, slightly enriched uranium reactors are more economical than natural uranium reactors.

2. But that would mean dependence on external sources for the fuel rods since the cost of setting up an enrichment plant is extremely high.

3. Natural uranium reactors are better for military purposes, not only because of the lack of dependence on other nations, but also because they produce one and a half times as much plutonium as enriched uranium reactors do. Their conversion ratio is 0.85 plus - i.e. for 100 grams of U-238 consumed, 85

grams of Pu-239 is produced. On the other hand for a reactor using fuel enriched to about 2 to 3 per cent, the conversion ratio drops down to 0.6 plus.

4. There is also the problem of weapons grade plutonium. Plutonium build-up is a function of the radiation exposure in a reactor. After a certain limit, the percentage of the Pu-239 isotope starts to decline sharply and that of Pu-240 to rise correspondingly. It was once believed that the predetonotion propensity of Pu-240 would prevent plutonium from power reactors from being used for weapon purposes. While the dangers of predetonation were definitely exaggerated, it is nevertheless still an important factor to be taken into account in weapon design. Beyond 10%, the existence of Pu-240 would upset the timing of the chain reaction. While theoretically, it is still possible to use <u>any</u> grade of reactor produced plutonium for weapon purposes, it is in practice unlikely that a nation which expends considerable resources on its nuclear programme would initiate its weapon programme with plutonium with high contamination of Pu-240.

5. A solution to such a problem would be the regular removal for fuel rods from reactors before the Pu-240 percentage builds up above a certain level. Here the Canadian HWR scores over the LWR since they are designed to be refueled on power - i.e. without shutting down the reactor. On the other hand light water reactors have to be shut down for weeks every time the fuel rods are to be replaced. Diversion of plutonium is therefore

much more difficult to conceal.

6. Finally, we have the LMFBR - the Liquid Metal Fast Breeder Reactor. Its major characteristic is that it produces power with a conversion ratio of about 1.2 plus. That is to say, it produces more fissionable material than it consumes. Once these breeder reactors come into operation, the availability of fissionable material would increase tremendously.(10)

The nuclear capabilities of the near nuclear nations (which in the absence of a definite criterion will be arbitrarily defined) are given below in order to emphasize the prospects of further proliferation in the near future. Of these nations, India is among the most advanced in terms of technology and personnel. Equally important is the fact that it is outside the NPT system and has made clear its intention of not joining it in future. It has also been the first nation to strike a blow at the NPT by conducting a nuclear test in May 1974, on which more will be said later. India has substantial resources of thorium on Kerala (which can be used in breeder reactors) and uranium in Bihar. It has four research reactors:

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(10) For discussions on this problem of reactor and weapon technology, refer to (i) Mason Willrich (ed) n. 4 (ii) R. Boskey and M. Willrich (ed) n.5 (iii) F. Barnaby: "Nuclear Power Reactors as a source of Plutonium" in SIPRI: The Near Nuclear Countries and the NPT (Stockholm: Almqvist and Wiksell 1972) (iv) William Van Cleave: "Nuclear Technology in Weapons" in Lawrence and Larus: Nuclear Proliferation Phase II (Wichita: University of Kansas 1974) (v) M. Willrich (ed): Global Politics of Nuclear Energy (New York: Praeger, 1971) and (vi) S. Glasstone: Source Book on Atomic Energy (Princeton: Van Nostrand 1967).

Apsara, a swimming pool type reactor; CIRUS a 40 MW Canadian reactor; and Purnima and Zerlina, both zero energy fast reactors. India has also given much attention and invested modest resources on power reactors. In addition to the 380 Mwe Tarapur Atomic Power Station outside Bombay, there is the 440 Mwe Rajasthan Atomic Power Station at Rana, Pratap Sagar. While the former is American using slightly enriched uranium, the latter consist of two CANDU type reactors using natural uranium fuel. The major plant under construction with nearly wholly indigenous technology is the 470 Mwe Madras Atomic Power Station at Kalpakkam. There are also plans to set up fast breeder reactors, and work on a research breeder reactor is proceeding at Kalpakkam. The sophistication of the Indian nuclear technology can be seen from the fact that the country fabricates major nuclear components including fuel rods, the reactor vessel (Calandea), steam generators and shields, thermal shield plates, fuelling machine heads, etc. Apart from its fast developing electronics industries, India also possesses a chemical separation plant (at Trombay), the National Fuel complex (at Hyderabad) which fabricates fuel elements, facilities for extracting thorium, uranium and other rare earths and for processing them. Measures are also afoot to build four more heavy water plants at Kota, Tuticorin, Baroda and Talchar in addition to the already existing ones at Nangal and Trombay. India has already demonstrated her ability and determination to

conduct peaceful nuclear explosions. Once plutonium production is free of safeguards, there should be little technical obstacles to her going in for nuclear weapons.

Pakistan's nuclear programme is closely linked politically to that of her larger neighbour, though it is far from comparable to that of the latter. She possesses a Canadian 125 Mwe HWR which is situated outside Karachi. It is placed under IAEA safeguards. Pakistan plans to acquire 4 to 6 -reactors from France under an agreement signed this year. It is believed that uranium deposits exist in Gilgit and in 1969, a pilot plant for the extraction of uranium ore was set up at Lahore.

The Israeli nuclear programme while not comparable to the Indian in size, is very important in the eyes of the proliferation watchers as Israel has embarked upon a deliberate policy of resorting to ambiguity regarding its nuclear performance as part of its security strategy. She possesses two nuclear reactors: the IRR-1, built by the Americans and the IRR-2, built by the French. The former at Nahal Sorek, is placed under IAEA safeguards while the latter at Dimona is not subject to any safeguards at all. This is precisely what makes it so interesting. For the Dimona reactor is of 24 Mwe. While it is true that Israel has no known chemical separation plant, given the small amount of fissile material concerned, it is possible Israel had set up a separation facility on a laboratory

scale which would serve its purpose. Israel has no known uranium resources.

The Egyptian programme is much more insignificant as compared to the Israeli one, than Pakistan's is vis-a-vis to India. She has only one reactor, at Inchas, which was built for research purposes by USSR and is supposed to be too small to produce any weapon-grade plutonium.(11)

Two Latin American nations, while possessing fairly modest nuclear capacities at present, nurse high ambitions for the future. Brazil has three small research reactors and one power reactor (LWR) of 500 Mwe which was scheduled to become operational in 1976. It has this year, entered into a nuclear agreement with West Germany for the establishment of 2 to 8 nuclear power plants of 1300 Mwe each (LWR); a fabrication, enrichment and separation plant and a joint scheme for uranium exploration. This agreement when implemented would mean the unprecedented transfer of an entire nuclear fuel cycle technology. Brazil possesses very high grade uranium as well as large quantities of Thorium - thus giving it a common interest with India in U-233 technology.

Argentina, Brazil's main rival in the continent, possesses in addition to its four research reactors, a West German natural uranium reactor of 320 Mwe. Unlike Brazil, Argentina also

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(11) SIPRI: n. 10 (3), p. 31.

has a chemical separation plant. It has also substantial uranium deposits. Negotiations are underway for further expansion of the nuclear programme.

In terms of natural resources, the country in the most enviable position is South Africa, for it has the world's largest uranium resources. It has, however, only one nuclear research reactor (of a fairly large capacity) but has recently concluded an agreement with France for the sale of a light water pressurised reactor. Enriched uranium for the plant will not be much of a problem, since the South Africans have constructed a pilot enrichment plant at Pelindaba.

Spain is another nation which also possesses huge quantities of uranium amongst its natural resources. It already has two operational nuclear power stations with a capacity of 600 Mwe, has four more power reactors under construction and in 1975, concluded agreements for five more power reactors. Four of these reactors were ordered from USA and one from West Germany. In addition, a small chemical separation plant is in operation.

All the natinns considered above are not parties to the NPT. Only Egypt has signed the treaty but it has not ratified it. Apart from these countries, there are four others which are worth examining despite the fact that they have both signed and ratified the NPT - Japan, West Germany, Australia and Iran.

Although Japan was a late starter in the nuclear field, its tremendous industrial potential coupled with its technological preeminence ensured that it emerged among the foremost of the

near-nuclear nations. Since it lacks cheap energy resources, it is the one nation which finds power reactors economical even from the short-term point of view. It has already an installed capacity of more than 1500 Mwe which makes her one of the largest consumers of enriched uranium. Therefore gas centrifuge processes are being set up on a rapid scale while research in gas diffusion is being followed. Japan is also developing fast breeder reactors and advanced thermal conversion reactors. Along with Germany, she is emerging as one of the major exporters of nuclear reactors.

West Germany operates more than a score of power reactors with a capacity of 10,600 Mwe. It has, in terms of percentage devoted to power production, the highest amount of nuclear power. It also has an extremely ambitious nuclear programme which would fulfil about 40 per cent of its power needs by the turn of the century. An advanced programme is underway which includes work on uranium enrichment processes (especially gas nozzle separation techniques) fast breeder reactors and controlled fusion reactions. A chemical separation plant has been in operation since the 1960s along with enrichment plant built jointly with U.K. and Netherlands. The third nation under consideration, Australia's position is somewhat similar to that of South Africa. She possesses fairly large uranium reserves which she is anxious to exploit. Measures are therefore afoot to set up an enrichment plant at Adelaide. Once in operation, this would become one of the largest industrial complex in the country with a total output of $428 million a year. Availa-

bility of cheap coal has rather hindered the development of nuclear power industries. There is only one power reactor - a 500 Mwe one in New South Wales.

Iran is the last nation on our list. While her present nuclear potential is not very high, she is investing very heavily in this field. Successive agreements have been concluded in the last few years with USA, UK, France and West Germany, both for the purposes of training as well as the actual purchase of reactors. In 1975 orders were placed with France for 2 LWR's and in 1976, with Germany.

The following table should give a rough projection of plutonium production capacities in selected near-nuclear states: (12)

| Country | Total Nuclear Capacity 1974 (Mwe) | Number of Power Reactors(Over 20 Mwe) | Total nuclear capacity 1980 (Mwe) | Number of power reactor 1980 (over 20 Mwe) |
|---|---|---|---|---|
| Argentina | 320 | 1 | 920 | 2 |
| Brazil | - | - | 600 | 1 |
| Canada | 2500 | 7 | 6100 | 12 |
| FR Germany | 4200 | 10 | 22000 | 28 |
| India | 780 | 4 | 1600 | 8 |
| Japan | 5000 | 10 | 19000 | 29 |
| Pakistan | 120 | 1 | 120 | 1 |
| Spain | 1070 | 3 | 8600 | 11 |
| Taiwan | - | - | 3000 | 4 |
| | **Totals** | **1974** | **1980** | |
| | Countries | 19 | 28 | |
| | Reactors | 170 | 393 | |
| | Capacity (Mwe) | 72 800 | 270,000 | |

(12) Based on Power and Research Reactors in Nuclear States (IAEA, Vienna, 1974). The Israeli capacity is about 30 Mwe and there is no information on further expansion. Recently Iran, Brazil, South Africa and Pakistan have concluded agreements with France and Germany. Estimated capacity is mentioned in the chapter itself.

The increasing acquisition of nuclear technology by these nations has been justified on the grounds of the peaceful uses to which nuclear fission can be put to. None of these nations have claimed that they would exercise their weapon options in the future. One of them has even gone so far as to conduct a nuclear explosion and then disavow military intentions. The main justification for the acquisition of nuclear technology is the tremendous significance of nuclear power reactors as energy sources in the future. This is especially true after the increase in oil prices and the fear of a cutback of oil production in view of diminishing supplies. Once breeder reactors come into operation on a large scale, the amount of raw materials required to sustain an expanding nuclear programme would be drastically reduced. Nuclear power provides the only alternative to nations which are running short of fossil fuel or do not have adequate fuel resources available. Even in India and Australia where fossil fuel is relatively abundant, and for power production, cheaper than nuclear reactors, the latter is justified on the ground that it is the technology of the future which would come into its own when fossil fuel is exhausted, as it is bound to be in the long run.

Exciting scientific prospects have also been envisaged regarding the peaceful uses of nuclear explosions.

> "...energy from explosions can be used to move considerable amounts of earth or rock, to construct -large canals or harbours, as well as to uncover shallow coal and ore deposits prior to open cast mining. The potentials of nuclear explosives in connection with increasing the production of gas and oil, constructing large water reservoirs in arid regions and underground reservoirs for natural gases are also mentioned." (13)

While today many of these schemes may sound utopian (especially since the danger of radioactive contamination has not been totally overcome), the possibility of their working is strong enough for technologically ambitious nations not to give up this option. The Soviet experience in this field has done much to strengthen such hopes.

The last two years have witnessed a dramatic step up in the sale of nuclear reactors and consequent spread of nuclear technology. The following table gives the statistics for the year 1976:

| Customer | No. of Reactors | Name of the supplier |
|---|---|---|
| Spain | 2 | Westinghouse (USA) |
| Spain | 2 | General Electric (USA) |
| Spain | 1 | Kraftwerk Union (FRG) |
| Brazil | 2 to 8 | Kraftwerk Union |
| West Germany | 3 | Kraftwerk Union |
| Luxembourg | 1 | Brown-Boveri (Swiss) |
| Sweden | 1 | ASEA-Atom (Sweden) |
| Japan | 1 | Mitsubishi (Japan) |
| USSR | 6 | Soviet Union |

(13) U.S. Emelyanov, On the Peaceful Use of Nuclear Explosions on SIPRI: Nuclear Proliferation Problems, (Stockholm: Almqvist and Wiksell, 1974) pp.215-16.

The table also indicates the slipping hold of the United States on the reactor industry. The biggest deal of the lot was the one between Brazil and West Germany which was carried through, in the teeth of U.S. opposition. It included:

1) Uranium exploration and mining over 73000 sq. kms. with a guaranteed 20 per cent share of ores to the F.R.G. The Nuclearbras (Brazil's atomic energy corporation) has a 51 per cent share in the joint company.

2) A pilot enrichment plant to be set up by 1981 followed by an industrial plant relying on the jet nozzle technique.

3) A fuel fabrication plant.

4) A reprocessing pilot plant.

5) Two 1300 Mwe LWR's to be set up by 1985 with an option for 6 more by 1990.

The sale is to the tune of $2 billion to $8 billion.(14) The year 1976 has been still more encouraging for proliferation enthusiasts. Iran concluded an agreement with West Germany for the sale of two nuclear reactors by 1981-82.(15) Two more were ordered from France. Pakistan also signed a deal with France which would lead to the acquisition of reprocessing facilities and a research complex for 4 to 6 reactors.(16) Its nuclear

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(14) See Gall, "Brazil's Nuclear Deal, Foreign Policy, Summer 1976.

(15) Mainichi Daily News (Tokyo), 6 July 1976.

(16) The Statesman (New Delhi) 26 February 1976.

(17) Times of India (New Delhi) 23 March 1976.

aims to acquire 24 reactors in all.[17] Pakistan and Iran have also decided to co-operate on atomic energy matters (with Turkey) through the Regional Cooperation for Development mechanism.[18] The French firm Framatome sold a light water pressurised reactor to South Africa, in spite of American competition.[19] The sale was worth $1 billion. Australia has announced plans to build an enrichment plant at Adelaide.[20] And in India, work is proceeding at full speed on the two CANDU and one experimental fast breeder reactor at Kalpakkam, as in the four heavy water units. Plans for setting up two Fuel Reprocessing plants at Tarapur and Kalpakkam have also been announced.[21]

One reason for the increasing sale of reactors has been the intense competition among the various national nuclear industries. Chief among them are Westinghouse and General Electric of USA, Framatome of France, the Kraftwerk Union (KWU) of Germany, ASEA-Atom of Sweden, Mitsubishi, Toshiba and Hitachi of Japan, and the Canadians. While once the Americans dominated this field, today it is the KWU and Framatome which are forging ahead. The intensity of the competition is indicated by the

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(17) Times of India, 23 March 1976.

(18) Economic Times (Bombay), 5 February 1976.

(19) Straits Times (Singapore), 31 May 1976.

(20) The Financial Times (Bombay), 1 July 1976.

(21) Times of India, 20 June 1976.

cut-throat techniques employed to denigrate competitors: for example the Americans spread the rumour that the KWU cannot financially fulfil its contracts in Argentina and Iran.(22) Competition is also likely to start in the field of enriched uranium for there are now five distinct entities competing in this field. USA (which has 3 ERDA plants); the USSR; the EURODIF (France, Belgium, Spain, Italy and Iran); the URENOU (Germany, U.K. and Netherlands) and South Africa. The unintended beneficiaries of the competition could be the near nuclear nations.

Senator Abraham Ribcoff has voiced the American concern with such trends:

> "Hard economic times and the high price of oil have combined to establish a desperate need to sell and a desperate need to buy nuclear power reactors. Nothing less than balanced international payments and energy self sufficiency is at stake. The resulting cut throat competition is leading to the spread of plutonium reprocessing and uranium enrichment facilities. The capability to produce nuclear explosives is spreading like plague...."(23)

One result of such warnings was the London Conference of the major reactor exporting nations: USSR, USA, Japan, UK, France, FRG and Canada. Four conditions were laid for the sale of enrichment and reprocessing plants and of heavy water. These were:

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(22) Gall, no.14, p. 168.

(23) U.S. Congress, Senate, Congressional Record, 94th Congress, 1st session, 3 June 1975, p. S9323.

1. That no nuclear explosions (peaceful or otherwise) were to be conducted by recipient nations.

2. That effective safeguards should be taken against theft.

3. That re-export of technology should also be safeguarded.

4. That no replication would be permitted - i.e. transfer of technology from safeguarded to non-safeguarded plants.(24)

But whether this cartel would be effective is the million dollar question, both metaphorically and literally. Fortunately for the recipient nations, all indications emphasise the ineffectivity of the cartel. The Americans broke off negotiations with Brazil because of the latter's demand for enrichment facilities; only to find West Germany filling the breach.(25) Similarly, when the US-Iranian agreement for the sale of reactors was stalled because of Iranian insistence for the setting up of spent fuel reprocessing plant, France and Germany stepped in.(26)

A strong case for cartelisation has been made by Senator Ribicoff who deals with the three major objections to it.(27) While

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(24) The Statesman, 20 June 1976.

(25) Gall, n. 14, p.

(26) Ibid.

(27) Abraham Ribicoff, "A Market Saving Approach to the World Nuclear Sales Problems", Foreign Affairs, July 1976, pp. 780-83.

it may represent a violation of anti-trust laws (Section One, Sherman Act), the law can be waived for reasons of national security. The second objection is that other reactor supplier nations would reject this market sharing approach. Ribicoff's solution assumes the preponderance and superiority of USA in reactor technology which would force other nations to negotiate, and advocates a guaranteed minimum sales to the various reactor exporting firms. The third objection, that third world nations would not deal with the cartel, is easily answered: there would be no other source for nuclear reactors.

A more pessimistic (and realistic) view is taken by Paul Joskow.(28) He points out that various nations have autarchic nuclear industry and to achieve scale economies in production they need at least a small export market (France for instance, switched from gas graphite to LWR purely for export reasons). In the near future there is likely to be an excess reactor capacity - which means a buyer's market. The latter naturally bargain for enrichment and reprocessing facilities in addition - as in the case of Brazil. One important fact is that while the American reactor industry has a significant domestic market, this is not the case with Western Europe. Thus an American inspired nuclear embargo is likely to be resented by them as an effort to kill competition [a la Concorde]. But above all,

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(28) Paul L. Joskow, "The International Nuclear Industry Today" Foreign Affairs, July 1976, p. 798.

there is the problem of bilateral diplomacy and the role of nuclear technology in it. Nations like Iran (oil) or South Africa (uranium) or Brazil, Spain and Australia (also uranium) would all be able to utilise their natural resources as the bargaining factor in reactor acquisition. Today Western European nations, France and Germany in particular, feel that the sale of nuclear reactors (apart from its inherent profitability) is a price worth paying to secure the goodwill of a crucial oil exporting nation, Iran. In the future, with the large scale introduction of nuclear power production, such an argument would also be valid for uranium or thorium (for breeder reactors). Prospects of halting or even limiting the spread of nuclear technology is, therefore, virtually nil. The problem, however, is that having acquired the necessary technology, how many nations would exercise their weapon options or use the threat of exercise of nuclear weapon option to achieve their national objectives.

# Chapter V

# THE NUCLEAR STRATEGIES OF THRESHOLD NATIONS

## Chapter V

## THE NUCLEAR STRATEGIES OF THRESHOLD NATIONS

That all roads lead to Rome is a truism which perhaps is most applicable where nuclear development is concerned. But in addition, it should be pointed out that they lead in different manners, to different parts of Rome. Broadly, one can say that there are three models for near-nuclear nations which can be followed as paths to attaining adequate leverage in nuclear diplomacy. They are those provided by Canada, Israel and India. But immediately after using the term 'model' a degree of qualification is necessary. No one nation can, in totality, provide a strategic model (in this case nuclear) for another. The specific political and historical situation in which a nation finds itself would be the ultimate determinant, and since no two nations will be in exactly the same situation, therefore they can't follow exactly similar routes. But yet some nations provide examples from which other nations can profit, though they may not be able to emulate.

The first model, that of Canada, while a theoretical possibility, is in practical terms irrelevant from the point of view of threshold nations. This is because of its unique special relationship with United States. For all practical purposes, it has been integrated into the American defence system - for Canada has allowed nuclear weapons to be stationed on its soil,[1] and has a crucial role in the early warning system.

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(1) First the Bomarc air defence warheads in the 1960's and now plans to provide bases for Trident submarines.

Economically, strategically and culturally, there is a very high degree of integration between two nations, to a degree unparalled elsewhere in the international system. There can be no doubt at all that any attack on Canada would be treated by the Americans as one on themselves. Therefore when Canada formally renounces the nuclear option, it means nothing in practice. She faces no credible enemy threat. Secondly, even if there was a threat, United States would look after it. So Canada is not giving up the concept of nuclear defence. She is instead passing the buck on to U.S.A. Further, Canadian troops participate in NATO exercises involving tactical nuclear weapons and sit in the NATO Nuclear Planning Group. Being an active member of NATO, Canada is committed to a strategic doctrine which involves the first use of nuclear weapons. Under these circumstances, can this nation claim with credibility to be a non-nuclear power? Or for that matter can Japan, West Germany and even Sweden (though to a lesser extent), advance similar claims? There is today a certain category of powers who exist in the twilight zone between a strictly non-nuclear status and nuclear weapon powers. These are the powers who in principle are not opposed to the military use of nuclear weapons, contribute to the doctrine of use of nuclear weapons in war and who have trained their defence forces in the use of nuclear weapons and have them available in the event of war. These nations approximate more to nuclear weapon nations than to non nuclear weapon nations. Canada falls into this category. Israel is the second and a more

relevant model. The Israeli nuclear position has been described by Haselkorn as the "bomb in the basement".(2) According to Yair Evron it is a case of use and misuse of ambiguity.(3) The Israeli model, to put it bluntly, demonstrates the constraints which the international system puts on a blatent weapons programme. Conversely it also emphasises the advantage of attaining nuclear capability - and then shrouding the programme in ambiguity. The demonstration ability to make nuclear weapons is as important as making the weapons themselves; and in some cases, can be put to a better diplomatic use.

Israeli nuclear capability has been briefly dealt with in the previous chapter, and there can be little doubt that she has the resources and capability to support a weapon programme.(4) There have, in consequence, been powerful arguments in favour of an open Israeli nuclear deterrent. Most of these arguments envisage either a nuclear Egypt (which is impossible in the near future) or an Israeli inferiority in the field of conventional weapons,(5) as justification for the

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(2) Avigdor Haselkorn, "Israel: From an option to a Bomb in the Basement" in Lawrence and Larus (ed), Nuclear Proliferation Phase II (Wichita: University of Kansas Press, 1974).

(3) Yair Evron: "Israel and the Atom: the uses and misuses of ambiguity" 1957-67, Orbis, vol. 17 no.4, 1973-74 p.1326-43.

(4) Refer to Simha Flapan, "Israel's attitude towards the NPT", in SIPRI, Nuclear Proliferation Problems (Stockholm, Almqvist and Wiksell, 1974).

(5) Haselkorn, n. 2. p. 151.

programme. Both these scenarios were considered and almost immediately afterwards rejected in view of what appeared to be the overwhelming military superiority of Israel after 1967. But after 1973, the situation appears to have changed somewhat: the Arabs (which means Egypt and Syria) have been able to achieve a higher degree of command over sophisticated weapon technology and are in a position to stay on the field for the necessary length of time. And this in view of the past Arab military record is a major development. With the help of Soviet technology, they were able in 1973, to practically neutralise the Israeli airforce. And the Syrians perhaps would have broken through Golan Heights but for a combination of tactical errors and illluck. So what appeared ludicrous after 1967 - namely an Arab break through into the Israeli heart land - does not appear so improbable after 1973. And in addition, the Israeli faith in their major external support structure - the U.S.A. - has been somewhat eroded. Any further Arab oil boycotts may considerably restrict American support of Israel. So an Israel, faced with progressive erosion of its traditional support structures, with growing international isolation as well as with the reduction of its conventional military superiority, may decide to exercise its nuclear option.

There are many who believe that a nuclear Israel would be able to enforce the continuance of the present statusquo in the Middle East. As Steven Rosen points out,(6) many of them

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(6) Steven Rosen, 'Nuclearisation and Stability in the Middle East' in Marwah, Schulz, Proliferation and the Near

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are ironically, Arab scholars. Fuad Jabber for instance writes that a nuclear Israel would lead to the following effect:

> "With the realisation that Israel cannot be militarily defeated, the rationale behind the permanent state of war, the economic blockade, the policy of non-acceptance and recognition may be expected to break down.... in a nuclear context, the survival imperative might provide enough justification to make new approaches possible (by Arab States)...." (7)

Even Hassenien Heikal feels that in view of Israel's growing isolation along with a shift in the traditional balance of power, she would have little choice but to rely on the nuclear deterrent.(8) And "then the sands would have run out for the Arabs". For the introduction of nuclear weapons in the Middle East would lead to a politico-military stalemate from which Israel would obviously benefit. This in short, is the argument in favour of an open deterrent.

But equally convincing arguments have been presented against the prospects of a nuclear Middle East amongst others by Haselkorn Flapan, Evron, Goldmann, Yadin etc.(9) There are few official Israeli pronouncements on the subject. And what little there are, are extremely cryptic and confusing.

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(continued from back page)

(6) Nuclear countries (Cambridge Ballinger, 1975).

(7) Fuad Jabber, "Israel and Nuclear Weapons" (London, Chatto and Windus 1971) p. 147. Rosen, n.6, p. 162, also quotes other Arab authors to similar effect like A.S. Khalidi, col. Mustafa etc.

(8) M.M. Heikal, "Atomic Danger in the Middle East Horizon." in New Outlook, Middle East Monthly September 1965, pp. 54-57.

(9) -/-

Within Israel, there is an almost total lack of public debate on this question as a result of an evidently unwritten agreement between various political parties. The consideration which inhibit an Israeli weapons programme have been briefly summarised by Haselkorn:

> 1. ".... Israel remains highly vulnerable to massive damage from only a few nuclear weapons.... (and the) high degree of (population) centralisation is a clear disincentive to entering the nuclear weapons arena where space is such an advantage".
>
> 2. ".... Tel Aviv knows that such action (i.e. the production of nuclear weapons) would not only provoke an attack by Arabs but probably force the Soviets to station atomic weapons in Egypt and give the Arabs a security guarantee."
>
> 3. ".... Possession of nuclear weapons would not relax Israel's economic burden since the military forces would have to keep their conventional superiority in order to deter the more probable secondary type clashes."
>
> 4. "An Israeli nuclear force would tend to unite the Arab world; involve tremendous political costs to Israel, especially when the U.S.A. is so firmly committed to an antiproliferation policy; and could eventually produce a mutually nuclearised Middle East, which would then suffer from an extremely unstable balance of deterrence." (10)

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(9) Haselkorn, Flapan and Evron have already been referred to. For the views of Dr. Nahom Goldmann and Yigal Yadin see "The Atom Bomb in Israel: A Symposium" in New Outlook, March-April 1961, p. 15.

(10) Haselkorn, n. 2, p. 150. Also refer to, William Bader, The United States and the Spread of Nuclear Weapons (New York, Pegasus 1968) pp.90-93. To Beaton and Maddox, The Spread of Nuclear Weapons (London, Chatto and Windus, 1961) p. 218. Haselkorn, n.2, also refers in

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We thus note that there are advantages in Israel making and publicising the nuclear weapon (as a last resort deterrance); and at the same time advantages in not doing so. The Israelis decided to utilise at the same time advantages accruing from both the options and therefore to exercise both options. This could be done, as one writer put it, if Israel did not adopt a "Westernised pattern in developing a nuclear weapon, that is, an intensive developmental effort culminating in a test shot which proclaims globally the attainment of the new nuclear power status".(11) In other words Israel should be able to maintain a continuum extending from a nuclear weapons capability to a secret nuclear arsenal. This is precisely what is meant by a 'bomb in the basement.'

From the point of view of an Israeli decision maker, the secret or not so secret nuclear arsenal would be able to solve many of his difficulties purely due to its uncertainity. As pointed out earlier, an Israeli announcement that it has stockpiled a certain number of nuclear weapons would, in all probability, lead to Arab nuclearisation.(12) It is possible, though

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(10) Continued from back page:

his above quote to

(i) Yisrael - Ariv, "Israel-Arab States: Neuclearised or Denuclearised?" (Tel Aviv: Amikam 1966)

(ii) Y. Ber, "Israel's security - Yesterday, Today, Tomorrow" (Tel Aviv, Amikam 1966). They are both in Hebrew.

(iii) E. Rutherford, "Israel and the Bomb", Cambridge Review, December 2, 1967, pp. 15-60.

(11) Haselkorn, n.2. (12) -/-

improbable that such an announcement could be a bluff. If this bluff is called, it would be disastrous for Israel. On the whole, therefore, Israel has much to lose by an open declaration of its nuclear status, irrespective of whether this declaration is a bluff or is real. In addition to the constraints mentioned above, Evron points out that nuclear weapons would be impossible to use in limited conventional war.(13) And given international pressures in regional conflicts, there can be little doubt that any future Arab Israeli war would still be a limited one. Lastly, a nuclear Israel would provide Soviet Union with a greater leverage among the Arab states - a situation which Israel is anxious to avoid.

Alternately, Israel can adopt a posture similar to that of Canada - i.e. sign the NPT and renounce the weapons option. This is the course what is urged, within Israel, by prominent scholars and scientists including some former members of the Israeli Atomic Energy Commission.(14) For the Israeli hawks it seems imprudent that for the fear of a mutually nuclearised Middle East in the distant future, Israel should give up what is both a strategic asset as well as a bargaining tool. Therefore, it appears that an Israeli decision maker prefers to follow the 'uncertainity principle'.

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(12) It must be emphasised that any significant Arab nuclear effort can only be made with Soviet support. In the last analyses, the Arabs will always have to rely on Soviets for both for conventional and nuclear armaments.

(13) Evron, n.3, p. 1333.

(14) For example Professors P. Olendorf (Haifa Technion) and S. Samburesky (Hebrew University).

What appears to be an ambiguous policy would give Israel a solution to the dilemma it is faced with. First of all, Israel would be able to continue the nuclear option and exercise it in the future. Her nuclear superiority would continue, for she can continue her research on the programme in an unrestricted though secret manner. In addition, an ambiguous nuclear policy would help ensure the non-nuclear status of the Arabs. There would be less Arab pressure on U.S.S.R. for nuclear aid and thus less likelihood of a mutually nuclearised West Asia. Most important, the non-exercise of the explicit nuclear weapons option served as a bargaining leverage during arms negotiations with the U.S.; particularly because the U.S. displayed sensitivity to the condition of that option at any given time.(15)

As early as 1962, Yigal Allon indicated that Israel was willing to trade its nuclear programme for aid in the conventional weapons field. He was supported by BenGurion.(16) For a short while BenGurion, and later Levi Eshkol, sought an alliance with either USA or with the NATO.(17) When this did not work out, the Israelis ultimately decided to postpone their weapons option in favour of a steady flow of conventional arms from U.S.A. Kennedy offered Hawk surface to air missiles to Israel in return for an Israeli decision not to develop

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(15) Haeelkorn, n.2, p. 155. Also refer Evron, n. 3, p. 1337.

(16) Evron, n. 3, p. 1330.

(17) Bar Zohar, Armed Prophet (London, A. Barker and Co., 1967) pp. 182-4; 256-8 and 292-4.

nuclear weapons. Ultimately, agreement was reached between USA and Israel in 1966 (note the year) whereby Israel promised not to extend activities of Dimona reactor. In return, the United States would supply Israel with sufficient amount of conventional weapons to enable her to maintain her local military superiority.(19) Eshkol however reserved the right to re-examine the situation if conventional supplies fell below the limit needed to confront the Arab States.(20) Once this agreement was reached, there was no reason on earth as to why Israel should stick to it. The United States, for various domestic reasons, finds itself so deeply committed to Israel that even if Israel extends Dimona activities, there is nothing she can do about it. There are reports of unofficial American inspection of Dimona, but at the same time, there are also reports that Dimona activities may have been extended after July 1970.(21)

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(18) Jabber, n. 7, p. 124. Also refer New York Times, June 16, 1968.

(19) Aubrey Hodes, Dialogue with Ishmael (New York, Funk and Wagnalls 1968), pp. 236-6. Refer also to Leonard Beaton, "Why Israel does not need the bomb". New Middle East 1969 who says that in 1968, Israel was allowed to buy 50 phantoms it and only if it restricted its nuclear activities.

(20) Simha Flapan, n. 4, p. 278.

(21) Haselkorn, n. 2, p. 168. The extension of nuclear activities is linked to increasing Soviet support for Arabs and the slow erosion of Israeli military dominance, which culminated in the shooting down of 6 Phantoms in

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Whether Israel actually possesses fully fabricated nuclear weapons is a matter for speculation. It is also irrelevant. What matters is that Israelis have been successfully able to create an impression that in all probability they do possess weapons. As Evron says "What matters is the image you create on the other side."(22) On the one hand there are many reports that Israel has actually fabricated weapons. Stemming from usually pro-Israeli sources, they give rise to the suspicion that these judicious leaks may not be without Israeli approval. The question of subjective credibility is of little importance; what matters is that they serve Israeli objectives. In 1969 Israeli officials encouraged an article in DerSpeigel which claimed that Israel was manufacturing fission bombs.(23) Since then a number of sources which are interested in the welfare of Israel have either claimed that she is manufacturing weapons or have dropped hints to that effect. Among them are Richard Helms,(24) (ex-CIA director testifying before Senate Foreign Relations Committee);(25) Senator Stuart Symington the SIPRI 1972 Year book(26) (which says that American intelligence is convinced that nine nuclear bombs have been made); Jane's

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(21) Continued from previous page -

July 1970. Haselkorn says: "If Israel in fact moved from an option to build nuclear weapons to a decision to do so, the critical judgement was made in mid 1970."

(22) Evron, n. 3. p. 1328.

(23) DerSpeigel in May 1969 Israeli Encouragement to the article is claimed in New York Times, May 8, 1969 p. 15. Cited in George Quester: The Politics of Nuclear Proliferation (John Hopkins Press, Baltimore, 1973), p. 99.

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'All the World Aircraft',[27] William Beecher,[28] (the military affairs editor of New York Times), London's Daily Telegraph,[29] DerSpeigel,[30] the 'Sunday Times Insight team,[31] and Henry Kissinger.[32]

Israeli political leaders have also directly added to the uncertainity by acting like modern Oracles of Delphi. Yigal Allon says that while Israel will not be the first to introduce nuclear weapons in the Middle East it would not be second either.[33] Eprahim Katzir[34] announces that Israel

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(24) New York Times, July 18, 1970.

(25) Ma'ariv (Tel Aviv) July 13, 1971.

(26) SIPRI Year Book (Stockholm, Almqvist and Wiksell, 1972), p. 312.

(27) Jane's 'All the World Air Craft'(London, Jane's Year Books) p. 595 (1970-71); p. 536 (1971-72) and p. 565 (1972-73).

(28) International Herald Tribune, October 6, 1971.

(29) Quoted in Lawrence Freedman, "A Nuclear Middle East?" Present Tense, Winter 1975, p. 20.

(30) DerSpeigel, May 5, 1969.

(31) Times "Insight Team", The Yom Kippur War (Double Day, New York, 1974), p. 283.

(32) Ibid.

(33) Jewish Observer, 24.12.1964, Quoted in Evron, n. 3, p. 1340.

(34) New York Times, December 5, 1974.

has the potential to produce atomic weapons and will do so "if we need it". Moshe Dayan[35] also says that Israel has the capability to make A-bombs "just in case Arab nations ever threatened to use one". While Israeli sources are supposed to have told the Sunday Times that they have upto 6 nuclear bombs[36] yet they react strongly to a Time magazine claim that Israel has 13 nuclear weapons.[37] The Ma'arive says that these claims are a "mixture of speculation, political gossip and partial information".[38] The net result any way is the necessary degree of uncertainity desired by the Israelis.

If Israel plays upon the uncertainty factor by not exploding fission bombs, India plays upon the same factor by doing the obverse - i.e. conducting a nuclear explosion and disavowing military intentions. Yet the very fact that nuclear explosion has already been conducted leads one to examine and place greater emphasis on the stages of the Indian nuclear programme and technological problems which constrain it.[39] The first stage of the Indian nuclear programme spanned the

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(35) The Tribune, 29 July 1976.

(36) Ibid.

(37) Financial Times, 6 April 1976.

(38) Quoted in ibid.

(39) Refer to R. Rama Rao, "India's Nuclear Progress - a balance sheet", India Quarterly, vol. XXX, no. 4, October-December 1974, pp. 239-53.

years 1947 to 1955 and involved the training of the necessary scientific personnel. The second stage involved the setting up of research reactors in Trombay, mainly with foreign aid. The next step was marked by the introduction of power reactors at Tarapore and Rana Pratap Sagar, again with foreign aid playing a dominant role. Today, India is poised on the fourth stage - namely the construction of an indigenous power reactors which would lead to uninhibited access to fissile material. This brief background of the nuclear programme is necessary in order to emphasise that as of date, there is, within India, only one accessible source of safeguard free Pu-239. That is the CIRUS (40 MW) Canadian research reactor at Trombay. All other nuclear reactors in operation have either been placed under IAEA safeguards or are zero energy reactors. There are other contraints on India emerging as a nuclear weapon power immediately. What many writers seem to ignore is that fission weapons are qualitatively different from nuclear explosives.(40) One needs sophisticated accessories which are integral parts of an adequate nuclear programme.(41) A primary requirement is suitable delivery vehicle. Many of the components for a space vehicle such as guidance systems and tracking radars have to be brought from external sources. In fact the first

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(40) E.g Subramaniam Swamy, "A Weapon Strategy for a Nuclear India", in the above issue of India Quarterly, pp. 271-76.

(41) Especially for a nation which has a long term view.

Indian satellite was launched, with a Soviet launch vehicle India's SLV-3 rocket is not expected to be ready before 1978 - and even that is an optimistic estimate.(42) All this is a result of the inadequate attention devoted to the technological infrastructure needed for a nuclear weapons programme (especially in comparison with China), and appears to have stemmed from an Indian decision not to go in for a weapons programme at this stage. The first comprehensive effort in the nuclear and space programmes started only in 1970 - the Sarabhai programme - and even that is now four-five years behind schedule.(43) Apart from the warheads and delivery systems, a nation intending to go nuclear would have to invest in surveillance Satellites, surveillance radars, hardened silos, micro-wave communication systems, survivable command posts and, alternative communication links, missile warning radars, and electronic data processing systems in adequate measure.(44) In India, the investment and consequently the resulting development in this field is, as yet, inadequate. In short she did not have the capability on 18 May, 1974 to begin a sustained nuclear weapon programme.

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(42) Subrahmanyam, "The Indian Nuclear Explosion and its Impact on Security," India Quarterly, October-December, 1974, p. 260.

(43) Subrahmanyam, India aptitudes towards the NPT' in SIPRI: Nuclear Proliferation Problems, p. 268.

(44) "Options for India", p. 11, Nuclear Weapons and India's Security", Seminar held by Institute for Defence Studies and Analyses and the Indian Council of World Affairs, 10 May, 1973.

Apart from this, there was one more reason - the real reason - why the Indian nuclear explosion had to be a "peaceful" one.[45] As we have pointed out earlier the plutonium for the ANE was derived from the Canadian CIRUS reactor. The 1954 bilateral agreement regarding this reactor was clear that it would only be used for peaceful purposes. Fortunately for India, there was no prevalent definition of the term - peaceful uses. India therefore insisted that a peaceful nuclear explosion was included in the definition - a point of view which Canada did not agree with. Since it was obvious from the 1960's that until the Kalpakkam reactor was set up, any nuclear test would have to be a ANE, India started laying the diplomatic ground for it. The Non-Proliferation Treaty was attacked mainly on the ground that it prohibited ANE's. Again and again India's determination to go ahead with peaceful nuclear explosions was proclaimed. In 1966, India stated as much to the ENDC while in 1972, the Parliament was told by the Defence Minister that the AEC was studying the technology to conduct underground nuclear explosions for peaceful purposes.[46] In 1970-71 both the Prime Minister and Vikram Sarabhai pointed out that the Indian nuclear policy did not rule out ANE's.[47]

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(45) For the sake of conformity with Indian strategic literature, the May 18 test will be referred to as a ANE.

(46) See V.C. Trivedi's speech to First Committee of U.N. October 31, 1966. Also Jagjivan Ram's speech in Lok Sabha, May 2, 1972. Quoted in Subrahmanyam, "India's Nuclear Policy" in Marwah Schulz, n. 6., p. 148.

(47) Quoted in Subrahmanyam, "India: Keeping the Option Open" in Lawrence and Larus, n. 2, p. 116.

Yet India has kept her military options open despite all the emphasis on PNE's. The Indian leaders have not totally ruled out military usage of nuclear explosions. It is rather reminiscient of the days before May 18, 1974 when they did 'not rule out' PNEs. For instance:

"Nehru stated his hope that India would develop atomic power for peaceful uses but warned that, as long as the world was constituted as it was, every country would have to develop and use the latest scientific - devices for its protection."(48)

"Nehru's willingness to keep the option open did not mean that he favoured development of the bombs by India. He was against it. But he knew the political value of keeping the option open."(49)

Mrs. Gandhi, a decade later, was blunter. She told Mohammed Heikal in an interview that if political conditions so required it, India would give consideration to exercising its nuclear option in favour of a military programme.(50) A year later, India's Deputy Defence Minister was still less diplomatic in telling Parliament that if nuclear weapon nations resorted to nuclear threats or use of nuclear weapons elsewhere in the world, such actions might change the Indian decision not to manufacture nuclear weapons.(51)

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(48) Lorne Kavic, India's Quest for Security (California, 1967), p. 28.

(49) Arthur Lall - Quoted in A. Kapur, "The Indian Test and Nuclear Game Rules" in Institute for Defence Studies and Analyses Journal, July-September 1974, p. 36.

(50) Patriot, March 31, 1973.

(51) Hindu, August 30, 1974.

Somewhat like Israel then, India is also following a strategy of non-use of the option. While Israel undoubtedly has adequate nuclear capabilities and has in all probability fabricated crude weapons, it is still to formally exercise its option. India is in almost the same position except that it has emphasised its capability further by conducting a PNE. It still possesses the option. But even if it wants to, it cannot exercise it as of now. The importance of the non-use of the option will increase once the capability to undertake a military programme develops.(52)

Some explanation is however needed for the reason why India diverged from the path followed by Israel. This can be found in their differing world views. Israel has always exploited the cold war situation(53) by leaning to one side. Since it is allied to one of the two super powers, there are certain restrictions operating on it. One of these restrictions is its inability to alienate the super power on a crucial issue like proliferation. Therefore its non exercise of the option - at least formally. The option itself is developed in case the super power alliance proves inadequate as a security safeguard. India on the contrary, exploits the cold war situation by

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(52) Once the entire Kalpakkam complex is completed.

(53) By the term "Cold War Situation", what is meant is the basic contradiction in the world between U.S.A. and U.S.S.R. This is deemed to continue despite the detente.

refusing to ally with either power. Such a policy is endangered by the management of regional conflicts by the two super powers acting in collusion. This is precisely what happened in the early stages of the Bangladesh crises. The May 18th test could therefore be a reassertion of India's independent stance. The test could be deemed a demonstration of India's non-alignment even after the Indo-Soviet treaty. Faced with growing Sino-American collusion, an India with its back to the wall had to conclude the treaty. The nuclear test can then be seen as a check or as a corrective measure to what would appear in Western eyes as following an excessive swing towards one of the super powers. Yet another explanation could be that the test was a reaction to the unprecedented threat to Indian security in the aftermath of Kissinger's China trip. The May 18th test may have been India's answer to the Shanghai communique. Any or all these explanations may be true in view of the general agreement that the Indian decision to go ahead with PNE test was taken in 1971.(54) For our purposes what is important is that despite certain divergencies, India like Israel, continues to build up its nuclear capability.(55)

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(54) Subrahmanyam, n. 42 writes, "A reasonable guess is that the decision has taken in all probability along with the signing of the Indo-Soviet treaty, following Dr. Kissinger's visit to China" (p. 257).

(55) Most of the writings on the subject envisage the exercise of the Indian weapon option in view of the Chinese threat (i) Subrahmanyam Swamy, n. 40; (ii) Subrahmanyam, n. 4 and Subrahmanyam, n. 46.

Having developed its capability, what does India gain by stretching its option? The Israeli gain is obvious: (i) conventional weapons from U.S.A.; (ii) preventing nuclearisation of enemies. Neither of these considerations operate for India. India is not allied to any power in a manner analagous to Israel and USA. India does not face the prospect of an overwhelmingly superior conventional threat which might force her into a nuclear military programme. Both the Chinese and the Pakistani conventional threats can be easily met by conventional means. Even the possibility of nuclear threat to India is not very high. Much as one would like to conclude otherwise, motivations for the Indian nuclear policy cannot be found in her military policy.

If any one factor can be called the motivating factor, it has been India's search for a position in the international heirarchy which she considers appropriate for herself. Non-alignment was the first manifestation of the search. In a sense, it was the search itself. Now the NPT, as has been dealt with in an earlier chapter, was an expression of the existing international power structure. It divided the world into two clear categories - the nuclear powers and the non-nuclear powers. India was, to her intense dissatisfaction, relegated to the second category. If she was to strike a blow against the NPT system which refused to satisfy her ambitions, she had to do so before 1975 - the year of the NPT Review Conference. The Indian test decision was a political decision in the strict

sense of the term. It was an attempt to undermine the NPT before it acquired further legitimacy. And it perhaps succeeded in doing so.

From the decision to undermine the NPT flowed inescapably the logic of the Indian nuclear option. The effort had to be something more than mere capability but something less than a weapons programme. The PNE was the answer. Not surprisingly, the PNE is a reflection of the general Indian attitude towards international relations - a mixture of deviousness and compromise. India's domestic political environment precludes her from openly defying the super powers and the 'world opinion'. In contrast, China's communist character facilitates and sometimes even necessitates the "standing upto the world" attitude. China therefore went ahead with a clear weapons test. India presumably decided to traverse the route in a round-about way and preferably in two stages. The first stage stretches from nuclear capability to PNE. The second stage would be if the decision is taken, to move from PNE to a weapon status. But that is still very much in the future. The result of the May 18 test can be summed up as follows:

(i) It caused a breach in the NPT by introducing a new category of nuclear non-weapon power. This in effect stretched the dividing line between nuclear weapon and non-nuclear nations.

(ii) India gained prestige by conducting nuclear explosions: that is by completing one half of the route to the weapons status.

(iii) It further derived prestige from the fact that there exists a possibility to move from PNE status to weapon status.

(iv) The fourth result, which was unintended, was that it helped other nations to breach the NPT in future by following the Indian example and conducting PNE's.

Apart from the five nuclear weapon powers and the three models we have considered for threshold nations, the two nations which cannot be ignored in view of their tremendous nuclear potential are West Germany and Japan. It has been pointed out earlier, that they are quite similar to Canada, with divergences of course. All of them rely on the U.S. nuclear umbrella. But from the American point of view, the hierarchy of interest based on geographical proximity will be Canada, Germany and Japan. Not surprisingly this has been the order of ratification of the NPT - Canada first and Japan last.

The first reason then, that West Germany (and Japan) should not exercise its weapon option is that it is already under a nuclear umbrella. Equally important was the fact that these were the two nations which had ignominy of being on the losing side in the world war. They are still distrusted - i.e.

not quite accepted in the international system. Soviet Union is uneasy at the prospect at a powerful Germany just as USA will be at the prospect of a powerful Japan. These are the two nations against whom the N.P.T. was really aimed at.

Japan has further disadvantages of being extremely dependent on external sources for nuclear fuel, as well as having limited area and high population density. Both these arguments apply to Germany too. Naturally, these two nations are well aware of their vulnerability in this regard and are taking steps to over come it. Japan is conducting negotiations with Australia while Germany has already reached a deal with Brazil for nuclear fuel.

In the past, the decision to "go nuclear" has been taken by a nation which wants to acquire further politico-military independence vis-a-vis its dominant bloc partner. This is not the case with Germany which has shown extreme reluctance to shoulder its own defence burden. So far, that has been the case with Japan too, but its future course of action is difficult to predict. In addition, neither of these nations faces any serious security threat, contrary to what most of the literature on the subject. If security threat is treated as a rationale, Japan has a better case than Germany is for the "hostage" scenario as a result of a Sino-American war is slightly more credible than a Soviet invasion of Europe. Not today perhaps, but in the future. On the whole neither Japan nor Germany are likely to "go nuclear". But both of them show every likelihood of building up their nuclear capability.

(Affected by the oil crisis, these nations have launched an intensive drive in favour of nuclear power). But it would be very difficult for them to overcome the major obstacle to their nuclear status namely determined super power opposition. (55 a)

The major question then is the nuclear strategy likely to be followed by other threshold nations. Understandably accurate predictions are very difficult. In view of recent developments in the lower half of Africa, South Africa is coming increasingly into prominence as the next candidate for proliferation. South Africa, as one study puts it, might take the decision to exercise a nuclear option which it is fast developing in view of general ostracisation of the rest of the world and the Western reluctance to incorporate South Africa into their

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(55a) For a discussion on the Japanese prospects of proliferation refer to:

(i) Yoshiyasu Sato, Japan's response to Nuclear Developments in Marwah and Schulz, n. 6; (ii) Masataka Kosaka, Japan's nuclear options in Kemp, Pfaltz-graff and Ra'anaan, The Superpowers in a Multinuclear World (Lexington, D.C. Heath and Co., 1974); (iii) Saburo Kato, Japani Quest for Strategic Compatibility in Lawrance and Larus, n. 2.; (iv) R. Imai, The Non-Proliferation Treaty: The Japanese Attitude Three Years After Signing. In SIPRI, Nuclear Proliferation Problems, n. ; (v) A. Wohlstetter, "Japan's Security: Balancing After the Shock." Foreign Policy 9; (Winter 1972-73); (vi) J.W. Morley, Forecast for Japan: Security in the 1960's (New York, Colombia University Press, 1972) and (vii) Kiichi Saeki, Japan's Security in the Multipolar World," Adelphi Paper No.92,

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structures of multilateral defence.[56] The temptation would increase once Rhodesia is liberated and nationalist fronts start concentrating their guerilla activities on the bastion of apartheid. From the late 1960's, demands have been made from time to time that a nuclear arsenal should be built up for prestige purposes. "We should have a bomb to prevent aggression from loud mouthed Afro-Asiatic states --- money is no problem. The capital for such a bomb is available".[57] So said Dr. Andries Visser, a Member of the Atomic Energy Board. General H.J. Martin, the Army Chief of staff is quoted to the effect that the Republic was ready to make its own nuclear weapons and linked it to the increasing South African interest in missiles.[58] Even Dr. A.J.R. Roux, Director-General of the Atomic Energy Board, has claimed that South Africa is in a position to make nuclear weapons.[59] So does his Deputy Dr. Louw Alberts. South Africa's ability to conduct nuclear explosions in the near future is not being questioned here. A recent SIPRI study for instance notes that "to those concerned with the threat of nuclear proliferation, the prospect of South Africa achieving nuclear power status appears highly

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(56) J.E. Spence, "The Republic of South Africa: Proliferation and the Politics of Outward Movement" in Lawrance and Larus (ed) n.2, p. 40.

(57) New York News, February 28, 1965 Quoted in Spence, n. 56, p. 45.

(58) Sunday Express (London), December 22, 1968 Quoted in ibid.

(59) De Beeld (Pretoria) July 26, 1970, Quoted in ibid, pp. 216-217.

dangerous...."[61] The problem is, having the capability, does she have the willingness to exercise the weapon option? There are various factors which inhibit or render unnecessary the exercise of the weapon option.

To begin with, the major threat to South Africa would come from guerilla movements and not from conventional armies as in the case of Israel. Nuclear weapons are of no use against them. But then, those who fear the South African nuclear weapons may argue, could it not be used against those nations (like Zambia, Mozambique etc.) which shield and provide bases for guerillas? The answer has to be in the negative again. As George Quester has pointed out "by manufacturing nuclear weapons itself, South Africa seemingly would stand to gain less then it would lose. Its conventional superiority over any political opponent in Africa is so clear that it would hardly seem advisable to change the rules of the game."[62] South Africa's dependence on the west is another inhibiting factor. She has to rely on them for political, economic, diplomatic and military support and therefore is unlikely to alienate them by contributing to proliferation. Instead, like Israel, it would be enough to develop a nuclear capability and then bargain with them for conventional support if the

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(60) Rand Daily Mail, July 1, 1974, Quoted in SIPRI: "Southern Africa: The Escalation of a Conflict" (Stockholm, Almqvist and Wiksell, 1976), p. 148.

(61) SIPRI: n. 60, p. 147.

(62) George Quester, n. 23, pp. 201-202. Also see Edward Bustin, "South Africa's Foreign Policy: Alternatives and Deterrence Needs" in Marwah Schulz (ed), n.6.

weapon option is not to be exercised. Where South Africa's nuclear bargaining is concerned, one factor cannot be over-emphasised. The fact that she has 25% of the world's uranium reserves. "The Republic was in a bargaining position equal to that of any Arab country with a lot of oil, in terms of the world's energy crisis".(63) In all likelihood then, South Africa will follow a nuclear strategy similar to that of Israel, with less emphasis on the last resort deterrent.

Apart from the nations already discussed, other likely candidates for nuclear proliferation (in the not so near future) are Brazil and Argentina. And in the still more distant future, Iran. Brazil is, with West German assistance, engaged in a major effort to build up its nuclear industry. It has acquired, in the world's largest nuclear deal, an entire nuclear fuel cycle leaving little doubt of its future intentions. It is interesting in this context, to note that Brazil was India's strongest supporter in attacking article II of the NPT. In addition she has made it very clear that she does not believe that the Tlatelolco Treaty prohibits PNE's.(64) There is a chance that she may follow the Indian model. As for Argentina and Iran, it is still too early to predict. Argentina would be motivated in her nuclear policy by her domestic situation, her

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(63) Laow Albert in Rand Daily Mail, July 1, 1974. Quoted in SIPRI, n. 60, p. 143.

(64) See H. Jon Rosenbaum, Brazil's Nuclear Aspirations in Marwah, Schulz (ed.) n. 6., p. 271.

desire to gain further autonomy from USA and her rivalry with Brazil. At least one writer has predicted that she would go Israel's way.(65)

The Iranian motivations are simpler to understand. The nuclear policy is in line with her entire defence and foreign policy, which aims to maximise the prestige and influence derived from her oil reserves. Her nuclear programme is still in too rudimentary a stage to excite further comment. This is also the case with Pakistan. Both these nations have recently embarked enthusiastically on the path of nuclear development. Pakistan's aim is less ambitious than Iran - for only wants to counter the nuclear "threat" which it perceives from India. Her major problems are not so much technological as economical. She simply does not have the resource-base to undertake even a modest nuclear programme. The solution to that can only be provided by collaboration with Arab states. One point should be emphasised. India, Israel, South Africa, Brazil, Argentina and even Iran want to use the nuclear factor in bargaining with a super power. This is not the case with Pakistan. Anyway none of the four above nations is, despite their being included in this discussion, really threshold nations. More need not be said about them.

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(65) C.H. Waraman, Incentives for Nuclear Proliferation: The Case of Argentina in Marwah and Schulz, n.6, p. 286.

# CONCLUSION

# CONCLUSION

The object of studying history is evidently to use the past to draw lessons for the future. The history of the last thirty years is significant for the impact of nuclear weapons on international relations. In the five preceding chapters, we have attempted to delineate the process of nuclear strategic and technological developments, concentrating on its diplomatic aspects. Intertwined in this are generalisations regarding the future of nuclear diplomacy. The aim of the conclusion is to present in a more logical fashion, the assessment of the future of nuclear diplomacy.

Historically, United States started the nuclear arms race after its successful test at Alamogordo. The Americans, after Hiroshima, proceeded to build around fission weapons an aura of tremendous prestige. It was seen as the absolute weapon - the ultimate in the technology of destruction. The myth was created fairly effectively, that it was only the 'bomb' which prevented the communist "hordes" from overrunning, Europe and Asia. And the United States, the self-appointed protector of all the "free world" values, was by virtue of being the first nuclear power, able to buttress its hegemony over the non-socialist world.

The association of nuclear weapons with big power status was further enhanced by the use to which the Americans put it in their diplomacy. On numerous occasions they brought nuclear threats to bear upon non-nuclear nations antagonistic to them, who possessed either local conventional superiority or ability

to reach a stalemate vis-a-vis US forces. Since many of these threats succeeded, the awe with which nuclear weapons were regarded increased. Fortunately for the world, American use (rather misuse) of nuclear diplomacy forced the two communist giants to go nuclear too.

In the light of the American experience, other powers with high political ambitions as well as powerful technological infrastructures decided to produce nuclear weapons on their own. These decisions were either taken for reasons of security as in the case of U.S.S.R., or of prestige as in the case of France and Britain, or a combination of the two - as in the case of China. Nuclear weapons, specifically the doctrine of independent deterrents, were obviously both a symptom as well as a cause of an increasingly multipolar world.

In view of their evident ability to ensure autonomy from super powers, nuclear weapons seemed increasingly desirable for the second rank powers. This realisation came at a time when the spread of nuclear technology had also assumed serious proportions. China's experience showed that the industrial strength required for nuclear capability was not as high as it was then supposed. Similarly the fact that China and France could "stand up to the world" (which means the superpowers) was an attractive precedent to nations like West Germany and Japan and one hopes, even India.

The nuclear powers not being unaware of such thought processes proceeded to place restrictions on the spread of

nuclear weapons. In institutional terms, the process started with bilateral safeguards agreements, followed by the Partial Nuclear Test Ban Treaty and culminating in the Non-Proliferation Treaty. Ironically, though not surprisingly, attempts to -restrict the number of nuclear powers only added to the prestige of being nuclear. It was like an exclusive club which is attractive mainly because it is exclusive. Yet this attempt to freeze horizontal proliferation was doomed to failure for two reasons. One was the unrestricted vertical proliferation which continued in violation of the N.P.T. (Article VI) and thereby undermined the legitimacy of the treaty. Secondly, many of the powers who had actual capability to produce nuclear weapons refused to accede to the treaty.

Today, the actors in the nuclear arena have been reduced to the five weapon powers and about the same number of powers who possess adequate nuclear capability. Most nations have become part of the N.P.T. system because the issue is not relevant to them. Other nations have put their signature since they are part of the super power military blocs. Still others acceded after being offered the protection of nuclear umbrellas. And finally, a few more signatures came after the nations concerned realised the need for external assistance for further development of their nuclear programme. Therefore the handful of nations which have held out against superpower pressure became the -focus. For these are the nations who can undermine superpower hegemony as symbolised by the NPT system.

These nations have followed a strategy, perhaps unconsciously, of using nuclear technology instead of weapons as a symbol of power. India is one of the trend setters of this group. By introducing a high degree of uncertainty into their nuclear policy and stretching their nuclear option, these powers are able to use nuclear technology as an important element in their diplomacy. Apart from conventional diplomatic usage, the nuclear capability will lead to an increase in the prestige of the nations concerned; would also lead to an erosion, however minimal of the status of the weapon powers; and if the threshold nations act unitedly it may even lead to the first steps towards real disarmament. For the threshold nations disarmament is important not for altruistic reasons alone. Apart from the fact the world is literally sitting on a bomb it is also noteworthy that the threshold powers are the major victims of weapon powers dominance. Disarmament would help to destroy the ouchaic Yalta power structure and lead to a more just world order, where middle level powers would have a greater say.

The Western nations and the Soviet Union have again attempted to restrict the spread of nuclear technology. This can be clearly seen in the activities of the so-called "London Group". Equally dangerous from the point of view of the threshold nations, is the advocacy of nuclear free zones in the world. The weapon powers having rejected this proposal where

they themselves were concerned, characteristically recommend it for others. On the whole, however, it seems unlikely that nuclear technology can be so easily stifled. Once nuclear technology spreads, prospects of disarmament become brighter. It may sound paradoxical but disarmament implies initial armament. But as Chesterton points out, most truths are paradoxes. The case of biological warfare is a precedent. Once it was obvious that most nations in the world were in a position to adopt it, disarmament in that sphere proceeded rapidly. Keeping in view all these considerations it is irrefutable that the spread of nuclear technology, to borrow a phrase from Eugene Debs, "is not only inevitable but also desirable". That road alone can lead to nuclear disarmament.

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