

Why States pursue nuclear weapons

by Sir Timothy Garden

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The Strategic Context

In the history of warfare, nuclear weapons are a relatively recent arrival in the armories of nations. It is only 55 years since the first, and last, atomic bombs were used in conflict. The investment in financial and scientific terms that was needed to design and build the first weapons was of a different order of magnitude than earlier weapons development. Even today, when the processes are well understood, producing a nuclear weapon is not a trivial task. The Manhattan Project, which developed the bombs that were subsequently dropped on Hiroshima and Nagasaki in August 1945, was the product of World War 2. Although the physics of fission had been developed before the war, it was initially the threat of Germany developing an atomic bomb which spurred such investment by the Allies. When it became clear in 1944 that the German programme had failed, there appears to be evidence^[1] that the main drive for continuing the project was a fear of the Soviet Union developing nuclear weapons after the War. Whether it was Germany or the Soviet Union that was seen as potential nuclear threat, the reason for the US nuclear program was to deter future attack by a nuclear armed enemy.

The Cold War period saw a slow growth in the number of nuclear weapon states. The Soviet Union may have started development of its weapon as early as 1942^[2], and it conducted its first successful test on 23 September 1949. Britain had been conducting its own research programme from 1940, but combined with the US programme in 1943. When collaboration ceased in August 1946 because of the McMahon Act, Britain went back to its own development programme and tested its bomb in 1952. France followed in 1960 and China in 1964. Ten years later India conducted what it termed a peaceful nuclear explosion, and did not at that time claim to be a nuclear weapon state.

Other states were also working on covert nuclear programmes but only a few continued the programme to successful completion. It is now clear that Israel has had a nuclear weapon capability for many years. South Africa had a well advanced programme which was discontinued when the apartheid regime ended. Pakistan is the only other confirmed state with a nuclear weapon capability. Although it was not until May 1998 that India and Pakistan conducted their weapon tests, both had long been known to have nuclear weapon capabilities, which were built up after their war of 1970/71.

Today we have some 60 years of nuclear weapon development history and just 8 states capable of immediate nuclear weapon attack. Concerns continue about proliferation of nuclear weapons and

other weapons of mass destruction. There are many advanced states which have the technical resources to become nuclear armed if they so wished. However, they have decided not to pursue the nuclear path. There are also a number of states which seem to be working towards a nuclear capability, but have not yet achieved it. This paper reviews the reasons behind the different national policies adopted towards development of national nuclear capabilities.

The Big Five

USA

When World War II ended, the United States thought it prudent to build up a stockpile of atomic bombs. While the strategic thinkers, such as Bernard Brodie^[3] were announcing the advent of deterrence, the military were absorbing the new weapons into their contingency planning. Atomic bombs were seen as more effective aerial bombardment weapons, which could be employed in future conflicts to reenact the strategic bombing of World War 2 with greater success. A capacity for massive nuclear retaliation was built up in order to deter an attack by the Soviet nuclear capability. The 1960s and early 1970s were characterised by the political realisation that a nuclear war could not be fought and won. They were also a period of considerable advances in the use of arms control mechanisms to limit the dangers of nuclear war. In 1983, President Reagan^[4] tried to gain a protective defence against nuclear attack.

In a reprise of the Reagan strategic defence initiative, President, George W. Bush included a national missile defence system as one of his priorities in his inauguration speech of 20 January 2001. Nuclear weapons are no longer seen as sufficient for deterrence of attack by weapons of mass destruction at some time in the future. Active defences against incoming missiles are believed to be necessary to reinforce deterrence.

Russian Nuclear Thinking

Stalin's major test of the resolve of the West was the Berlin Blockade in 1948. That he chose not to use his superior conventional strength and tactical position suggests a concern for nuclear vulnerability. The Soviet large conventional forces must be kept in being while the nuclear capability was developed. By 1955, they were at last gaining a strategic nuclear capability, which, however inferior, they were prepared to brandish. Bulganin told Eden of Britain's vulnerability to attack using 'rocket technique' should Britain continue the Suez operation.^[5] Khrushchev made it clear that he considered the nuclear strategic missile to be the cornerstone of his military policy. In 1960, he proposed reducing the armed forces by 1,200,000 men and disposing of military aviation and surface ships. The strategic rocket forces would make the current structure unnecessary.^[6]

Following the fall of Khrushchev in 1964, the military view of the need for strong conventional forces coupled with strong nuclear forces prevailed. It is evident that achieving parity with the

United States was the first priority. The Soviet view of deterrence was significantly different from the American one. It is usually described as 'deterrence by denial', rather than the West's doctrine of deterrence by punishment^[7]. The demonstrated capability and willingness to fight a nuclear war, and hence deny a victory to the enemy, acts as the deterrent to aggression.

The other nuclear weapon holding republics of the USSR, Ukraine, Belarus and Kazakhstan reverted to non-nuclear status in the mid 1990s. The decline in the economy and in the military continued through the decade, and Russia's nuclear weapons were often seen as its only remaining claim to world class status. With the election of Putin in March 2000 as President, the importance of national pride has been reinforced. To this extent nuclear power status remains important. There are also indications that nuclear weapons are seen as compensating for weakness in conventional forces.

British Nuclear Thinking

The British military were convinced of the need to have an atomic capability to match any other power which might develop such weapons. The nuclear arsenal was seen as the counter to the Soviet conventional force superiority. It was not until 1956 that Britain had a significant operational nuclear capability with the coming into service of the V-bomber force. The dependence on the effectiveness of this force was such that the following year, the Defence White Paper stated that large conventional forces would no longer be necessary.^[8]

There was a complete reliance on a massive retaliation strategy as a response to Soviet aggression; and Britain was the first country to base its national defence upon a declared policy of nuclear deterrence. As part of the 1962 arrangement by which the US supplied Polaris missiles for use with British nuclear weapons, Prime Minister Macmillan insisted on preserving the option for independent use in the supreme national interest. This independence clause may have been predominantly to preserve Britain's great power role; but France was already expressing concern over the credibility of the American nuclear support for Europe, and this may also have been a factor. In 1964, the Defence White Paper did consider the possibility of a 'mistaken' Soviet belief in the unwillingness of America to defend Europe, and hence the need for a European nuclear power.^[9]

The new Trident strategic missile system became operational from 1994 onwards building up to four submarines. By 1998 these represented the only nuclear systems fielded by the UK, and were limited to 48 warheads each.^[10] The rationale for this minimal force appears to be as an insurance policy against an uncertain future. A degree of ambiguity is retained as to its utility for deterring WMD attacks on a non-nuclear nature. In an interesting development this year, Geoff Hoon, the defence Secretary, has made more explicit the UK willingness to use its nuclear forces following attacks by any form of WMD at home or abroad.

French Nuclear Thinking

Although French scientists had been involved in early work on the development of the atomic bomb, France - like Britain - had no prospect of sharing in the fruits of American research after the war. The French military were well aware of the importance of atomic weapons, and much emphasis was placed on the tactics of the nuclear battlefield. This concern over the effect of atomic weapons on war tactics led to the emergence of a body of military opinion which considered them an essential part of the nation's arsenal. From the mid-1950s, this military view, coupled with the establishment hope that atomic weapons could give more strength per franc, formed a climate of opinion for the production of such weapons which could survive the changing governments.

The Suez crisis of 1956 reinforced the mistrust of American protection.. What coherent policy discussion that there had been during the Fourth Republic suggested that the role seen for atomic weapons was as a part of the NATO Alliance, albeit as an independent great power. The advent of Charles de Gaulle and the Fifth Republic changed this. There was little discussion of the strategy or force structure necessary. The aims of de Gaulle in producing the *force de frappe* were: the restoration of French grandeur, the reunification of Europe, the subordination of West Germany and hence French leadership in Europe, and ultimately an independent role for Europe in the world.^[11]

De Gaulle saw the nuclear force primarily as a diplomatic tool. His strategy is usually described as that of 'proportional deterrence'. The French posture was one of immediate and massive retaliation once French territory was threatened. The concept of flexible response was rejected on the grounds that Europe would be destroyed as the host to the battle.

France has not been enthusiastic about arms control measures which might limit either its weapon systems or their testing. It was prepared to continue weapon testing in 1995 against great international hostility. Although the rationale for its small nuclear forces is even more opaque today than ever, there is little sign of any internal pressure to disarm. It continues to see its ownership of a nuclear capability as important in terms of its world status, and as a leading power within Europe.

Chinese Nuclear Thinking

Mao Tse-tung refused to acknowledge the importance of atomic weapons. There was, however, no doubt that China in the early 50s expected to get the technology, if not the bombs, from the Soviets. During this period, the Chinese leaders both advocated general nuclear disarmament and

also declared nuclear proliferation to be desirable. The rationale for these apparently conflicting policies was that either would break the nuclear monopoly of the United States and the Soviet Union. It is a measure of the importance which Mao attached to the programme that as early as 16 October 1964, they tested their first static 20 kt atomic device. Those working on both the weapons and the delivery systems development must have been exempted from the excesses of the Great Proletarian Cultural Revolution which began in September 1965. China did not test its first intercontinental ballistic missile until 1980, and only has around 20 such missiles available in 2001.

It is difficult to postulate a consistent nuclear strategy through Mao's time, given the internal turmoil of 1966 and 1967, the widening rift with the Soviets, and the eventual rapprochement with the United States in 1972. One commentator^[12] saw the Chinese as having five objectives: national security; regaining the lost great power status; extending influence in Asia; regaining lost territories; and leadership of the Communist world.

The Chinese have reacted strongly^[13] against the current US proposals for national missile defences. They see themselves as the main losers if such a system were successfully deployed. It appears that they will take a renewed interest in nuclear systems if NMD deployment is started as they perceive the US as a real military threat. They look to their nuclear status to ensure that the rest of the world does not interfere with their internal affairs.

The Next Three Nuclear States

Israeli Nuclear Strategy

It has been said that Israel has always been a nuclear country.^[14] Within a year of the establishment of the state in 1948, the first plans for the nuclear research programme had been made. In 1957, Israel and France concluded a secret agreement which was to result in a large research reactor being built for the Defence Ministry at Dimona in the northern Negev. In late 1964, the Dimona reactor became critical, and started producing about 8 kg of plutonium per year. CIA reports have also revealed that Israel obtained 'large quantities of enriched uranium by clandestine means'.^[15]

There is little doubt that Israel is a nuclear weapon state. Initially it raced, by all possible methods, to provide itself with a last resort capability. This could be used if there was an imminent danger of being 'pushed into the sea' by its Arab enemies. It then developed a nuclear war-fighting capability to compensate for its numerical inferiority. Its ambiguous position does not appear to have deterred its opponents from aggression. The size of its nuclear arsenal remains open to question but is variously assessed at between 100 and 200 nuclear warheads.^[16] It appears that associated missile development is consolidating the Israeli nuclear capability with the possibility

of submarine launched cruise missiles.

Israel has been uniquely favoured in its ability to become a new nuclear weapon state. The United States has protected it from the international pariah status that other potential proliferators have suffered. It has a strong technological industry and a readily perceived threat to its existence. The WMD programmes in Libya, Iraq, Iran and Egypt have all reinforced its will to retain and strengthen its strategic nuclear capability. Given its willingness to use pre-emptive action, the possibility of a nuclear warfighting strategy remains possible for Israel.

Indian Nuclear Strategy

India has a tradition of atomic energy research, which can rival that of the other nuclear powers. Homi J. Bhabha, the father of the Indian bomb, set up an institute of nuclear physics research in 1945. Under Nehru, a joint Canada-India reactor, CIRUS, became operational in 1960. With a second research reactor in 1961 and a plutonium plant completed in 1964, the Indians had a sound base for nuclear weapon production. Indian public opinion was becoming more concerned about the dangers of a world divided into the nuclear 'haves' and 'have-nots'. The Sino-Indian conflict of 1962, the Chinese nuclear test in 1964, and the war with Pakistan in 1965 produced a strong body of opinion favouring nuclear weapons for India.^[17]

India was a leading opponent of the Non-Proliferation Treaty (NPT), which was viewed as a discriminatory arrangement, set up by the nuclear weapon states for their own benefit. On 18 May 1974, an underground test explosion of a Hiroshima-sized device was successfully carried out. It was seen internally as a great boost to India's prestige.

If India had been stockpiling nuclear weapons, it could have produced perhaps as many as 200 warheads or bombs. It has an aircraft delivery capability and has been developing its satellite and missile technology to pose a deterrent threat to China. While it could use its nuclear force against Pakistan, it has no need except to deter a Pakistan nuclear threat. The world was aware of India's nuclear capability in 1998 before it conducted the series of test explosions. However what was surprising was the complexity of the two tests on 11 and 13 May 1998. A total of five devices were tested and included thermonuclear, fission and low yield warheads.^[18]

This was a dramatic change of policy which followed the election of the pro-nuclear Vajpayee government in March 1998. The rationale for becoming overtly nuclear includes concern over both China and Pakistani nuclear capabilities, domestic political needs to show strength, and a wish to be taken as a regional leader and perhaps global power. It is interesting that the test marked a change in international perception of the nuclear qualifications for permanent membership of the UN Security Council. While each of the P5 members was also one of the 5

nuclear weapon states, India's ambitions to gain this status have undoubtedly been set back by its nuclear weapon tests.

Pakistan Nuclear Strategy [19]

There is some debate as to whether India or Pakistan was the first to start a nuclear weapon research programme. There are indications that President Ayub Khan started initial moves as early as 1965 in response to a perceived possible future Indian threat. India has a much longer involvement in atomic energy, but it appears that both began the pursuit of a nuclear capability in earnest after the 1971 war. Given the lack of civil atomic expertise, Pakistan has found it more difficult to develop a broad weapons programme. The United States took a number of embargo measures to prevent the transfer of nuclear technology to Pakistan by third parties between 1976 and 1985. However economic and military assistance was restored following the Soviet invasion of Afghanistan.

President Zia used the more relaxed international regime as an opportunity to move the nuclear weapons programme forward. It was believed that a rudimentary weapon was available by 1987. In parallel with this work Zia made a number of arms control proposals to India, including the proposal for a South Asian nuclear free zone. This would suggest that the Pakistan nuclear weapon requirement is entirely and exclusively to deter the use of Indian nuclear weapons. The export controls on nuclear related technology from the West increased Pakistan's dependence for help from China, which has a common interest in neutralising the Indian nuclear threat. Chinese assistance was obtained for the uranium enrichment operation.

The decision to demonstrate its nuclear capability by testing was in direct response to the Indian tests. Pakistan needed to show its own population that it was able to deter an Indian nuclear threat. Given the disparity of the military capabilities between the two states, it is likely that Pakistan also sees nuclear weapons as compensation for conventional force weakness. The Pakistan nuclear test took place on 28 May 1998 just two weeks after the first Indian test. They claimed to have detonated five devices although seismic data suggests it may have been three explosions.

Near and Aspiring Nuclear Powers

For future defence planning, it is important to know which states are interested in acquiring nuclear weapons and how much progress they have made. Inevitably information is limited as the states concerned try to hide their research and development programmes. International interest currently centres on Iran, North Korea and Iraq (which have now been characterised by President Bush as the 'Axis of Evil'). However at other times, Libya, Egypt and Syria and Taiwan have been in the spotlight. The US Central Intelligence Agency provides reports to Congress on the current

assessment on a six monthly basis. Saudi Arabia is mentioned less often but shows every sign of pursuing a nuclear option.

Iran

The CIA report^[20] for August 2000 shows Iran as particularly active in the pursuit of nuclear capability. It warns that Iran continues to seek fissile material and technology for weapons development and uses civilian entities as part of an elaborate system devoted to furthering these efforts. Iran has many reasons for wanting a nuclear capability. They have been listed^[21] as building Iran as the major power of the region, defending against threats from US, Iraq and Saudi Arabia, and compensating for conventional force weakness. It faces a real possibility of attack by WMD in any future war with Iraq, and needs to deter their use. It also worries about threats from Afghanistan, and beyond that the now nuclear armed Pakistan. The co-operation between Turkey and Israel is also a source of insecurity. The US support for Israel, despite its illegal nuclear weapon status, is another factor in the equation.

From the Iranian perspective, the acquisition of nuclear weapons is entirely rational. They provide, at lower cost than a large modernisation of conventional forces, a significant enhancement in national security from a large number of potential enemies. The international reaction is unlikely to isolate the country more than it is at present. The only difficult decision will be whether to become an overt power through nuclear testing.

North Korea

North Korea's nuclear weapon programme^[22] dates from the 1970s. It faced a potential nuclear threat from the US during the Korean War, and was also concerned that South Korea subsequently might gain a nuclear capability. In 1984, it was clear that North Korea had established an indigenous nuclear programme using local uranium and graphite in a reactor. The reprocessing plant for separating plutonium was spotted in 1986, and a larger reactor was begun in 1988. The August 2000 CIA report to Congress says that North Korea has made enough plutonium for one to two nuclear weapons and continues to purchase items that potentially could be used in nuclear weapons production.

Like Iran, North Korea has been isolated from the international community. It also believes that it is threatened by a South Korea with nuclear potential, and that the US would be prepared to use nuclear weapons in the region. It has therefore defence and deterrence motivations for developing nuclear weapons. It has also learned that it is taken much more seriously by the rest of the world if it appears to be on the route to a nuclear weapon capability. The assistance it has received for its civilian nuclear programme is as payment for refraining from pursuing fissile material production.

Iraq

[23]

Iraq has been trying to acquire nuclear weapons since the mid 1970s^[23]. Its reactor at Osirak required a supply of enriched uranium fuel, which could be diverted. The annual supply would have produced one atomic bomb at most. It was destroyed by a pre-emptive Israeli raid in 1981. It dispersed its programme over the country from then onwards and continued work on bomb design. The Gulf war of 1991 followed by the UN inspection regime found and destroyed the key parts of the Iraqi nuclear weapon programme. It became clear^[24] that a massive programme (called Petrochemical 3) had employed 20,000 workers over some thirty different sites. They were exploring different uranium enrichment technologies. It appears however that they had not been successful in producing a nuclear weapon. Once the UN inspections were stopped in 1998, the US and UK in Operation Desert Fox in December 1998 destroyed any remaining suspect sites. However it is likely that Saddam Hussein continues to seek ways to produce Weapons of Mass Destruction. The CIA report of August 2000 says:

We do not have any direct evidence that Iraq has used the period since Desert Fox to reconstitute its WMD programs, although given its past behaviour, this type of activity must be regarded as likely.

Iraq has also been pursuing Chemical and Biological weapons of mass destruction, and has used Chemical Weapons in its war with Iran, and for internal security operations as well. It shares with North Korea and Iran a high degree of international isolation. It has had recent wars with Iran, Kuwait, the large US-led coalition of the Gulf War, and the smaller US/UK operation Desert Fox. Israel has carried out a pre-emptive attack on a nuclear reactor. It is subject to no-fly zone patrols and economic sanctions. It sees itself as having a natural leadership role for the Arab world yet surrounded by potential enemies. It needs nuclear weapons for prestige, for deterrence and perhaps for warfighting. It may be that given its long history of failure to procure a nuclear weapon, it is now more focused on the chemical and biological alternatives.

Saudi Arabia^[25]

Just as the Western powers fail to raise the issue of an Israeli nuclear weapon programme, so there is little discussion about what is going on in Saudi Arabia in this field. As a key ally of the United States, there is a reluctance to cast Saudi Arabia in the same category as Iran, Iraq, North Korea and Libya. Yet there are indications that would be of significant concern if found in any of these other four states. They procured CSS-2 ballistic missiles from the Chinese in the 1980s. These missiles are able to carry a payload of up to 2500kg and have a range of between 750 and 4000 km. Saudi Arabia is estimated to up to 60 missiles. They have refused a request for on-site inspection by the US. The missiles are too inaccurate to be of much use for conventional warhead delivery.

Saudi Arabia has reason to fear a number of its neighbours. It would wish to deter possible attack by Israel, Iraq or Iran. All these three are assumed to have or be keen to develop nuclear weapons capability. They know that they are unable to defend themselves from within their own resources, and their dependence on the US and allies gives them internal political difficulties. They are very closed society and would find it easier to develop a covert nuclear programme than many others. It would be entirely rational for them to mirror image the Israeli approach to a nuclear weapons programme.

Other potential proliferators

Just as Iraq has been trying for many years to build a nuclear weapon, so a number of other states have been interested over recent years, but are currently less engaged, and may have stopped because of various factors. Syria and Libya had aspirations to nuclear status in the past, but appear less committed in recent times. Given particular circumstances, South Korea, Taiwan and Egypt might become interested. In terms of missile delivery systems, the only nations either operating or developing capabilities for missiles of over 500km range are: the 5 nuclear weapon states, India, Iran, Iraq, Israel, N Korea, Libya, Pakistan, Saudi Arabia, Syria and Taiwan. All of these are in reaction to regional rather than global balances of power, although gaining a nuclear capability would change their status within the international community. Iran is active in its development of both cruise and long range ballistic missiles. Iraq can do little about longer range missiles while UN sanctions continue. Libya has tried unsuccessfully to obtain longer range missile technology. North Korea is actively obtaining such technology from China.

It appears that the anti-proliferation regime has been successful in reducing the number of states that are likely to gain nuclear weapons in the near term.

Powers that have discarded the nuclear option

In looking at the motivation for states to acquire nuclear weapons, it is also important to consider why some states have changed their views about acquiring nuclear status. South Africa, Argentina and Brazil, Australia and Sweden considered the nuclear option seriously, but subsequently given up their nuclear programmes. Ukraine, Kazakhstan and Belarus gave up the nuclear capabilities that they fielded as part of the Soviet Union's Cold War forces. To these states can be added a list of technically advanced countries which could readily develop a nuclear weapon capability but have chosen not to do so. These would include most European Union nations (except Britain and France), Japan and Canada.

South Africa^[26] had a well advanced nuclear weapon programme in the 1970s and 1980s, when it was a regime that was isolated internationally because of its apartheid policies. It felt that it was surrounded by potential enemies and had no allies to call upon in the event of a battle for survival.

Despite the apparent military irrelevance of a nuclear weapon to the skirmishes between the Front Line States and South Africa, the rationale must have been similar to that of Israel. It would be difficult for the rest of the world to ignore a crisis in which nuclear weapons were a factor. The decision to abandon the programme was taken as the international isolation of the apartheid years was removed.

Argentina and Brazil were both sources of proliferation concern in the 1970s and there were predictions^[27] that they both might follow the Indian example of testing a so-called peaceful nuclear explosion. It was assumed that they were seeking the prestige of nuclear weapon status and confirmation as major regional powers. The military leadership seems to have been a factor in the decision to move along the nuclear route, and the return to civilian democratic government, coupled with economic pressures, has driven the process of moving away from nuclear weapons. A progressive series of confidence building measures^[28] from the mid 1980s meant that both states have proved to each other and the international community that they had given up nuclear weapon aspirations by 1995.

Australia had the technical expertise and mineral resources to produce its own nuclear weapons. It was used by the UK for nuclear tests. As a regional power, it could have justified to itself the need for its own nuclear capabilities but preferred to go down the route of security through the non-proliferation treaty. Similarly Sweden had always taken a robust view of its neutrality. Geographically so close to the Warsaw Pact and NATO nuclear forces, it did not technically benefit from the mutual deterrence of the two alliances. There was therefore a logical case for providing its own nuclear deterrent capability in a similar way to France. Again the attractions of the arms control approach through the NPT won the day.

Those developed states which have the nuclear material, the technology and the wealth to build nuclear weapons but choose not to are mostly covered by security arrangements with other nuclear powers or by the arms control approach to their security. It reduces the incentive to spend money, and goodwill, on a nuclear programme if they can be brought into an international security regime in which they have confidence..

Why States Go Nuclear

There are a number of common factors between the motives of nuclear weapon states and those of aspirant nuclear states. However in making comparisons, the changing world view of nuclear weapons over time has also to be considered. Before 1945, there was no knowledge of the nature of a war in which atomic bombs were used. While some of the scientists associated with the Manhattan Project were uneasy about the potential implications of the weapon that they were designing, there was no experience for the wider international community to draw upon. Since then a complex structure of treaties has emerged to regulate, restrict and inhibit the growth of

nuclear weapon states. Today, even the five original nuclear weapon states feel it necessary to declare that they will eliminate their weapons^[29] eventually. Working in the opposite direction over time has been the technology of the weapons. While in the early 1940s only a major power could contemplate the enormous costs of embarking on such an uncertain project, now much smaller nations may be able to put together the necessary enabling capabilities.

Insecurity

The most common strategic reason for developing a nuclear weapon capability is insecurity. If a state feels extremely threatened, it may see a nuclear capability as its only defence. This will be particularly the case if the perceived threat is itself nuclear (or more lately perhaps Biological). The first nuclear weapon programme was developed as the answer to the potential development of atomic weapons by Germany in World War 2, and was continued for similar fears about the Soviet Union. The Soviet Union developed its nuclear capability as part of its armoury against a hostile West. China saw itself as vulnerable to a surprise attack from the United States, and it needed nuclear capability to deter such an attack. Israel saw itself as surrounded by enemies who wanted to sweep it into the sea. Iraq sees itself at risk from Israeli nuclear weapons, and from western nuclear powers and potentially from Iran. Similarly Iran fears Iraq, Israel and the United States. This may be affecting the Saudi Arabia approach to security. India saw itself vulnerable to Chinese nuclear weapons in any war, and Pakistan saw itself at risk from Indian weapons. International isolation can increase a state's sense of insecurity, and therefore its need for a nuclear capability. This was the case for South Africa in apartheid times, and has been true of North Korea, Iran, Iraq and Libya at various times. The international isolation today will normally deepen if there are signs of a nuclear weapon programme under development, and this may reinforce the belief that such weapons are needed. On the other hand an extended security arrangement with a friendly nuclear power reduces the need to undertake a national nuclear programme.

Aids to Victory

While the acquisition of nuclear weapons for reasons of insecurity will primarily be centred on deterring nuclear attack, the weapons have also been seen as warfighting capabilities. The United States used them against the Japanese in order to secure victory in 1945. The use of them against Russia and China may also have been contemplated. Certainly the use of nuclear weapons in the Korean War was considered by President Truman^[30]. The Soviet Union had a military strategy which incorporated its tactical nuclear weapons into its warfighting doctrine. It can also be argued that the NATO doctrine of flexible response recognised nuclear weapons as having some utility in war. However, the main purpose of this doctrine was to reinforce deterrence rather than conceive of victory over the Warsaw Pact through nuclear use. While military victory through the use of nuclear weapons may have been a conceptual possibility in the early days, it is unlikely to be a

convincing rationale for acquisition today, given the likelihood of massive retaliation by another nuclear state.

Status and Influence

A powerful motivation for acquiring nuclear weapons has been the effect on national status and prestige. Britain seems to have thought least deeply about the implications of embarking on a post-war programme independent from the United States. There was a natural assumption that it would need to have atomic weapons in order to retain its place as a leading world power.

Similarly France saw the need for a nuclear capability to underpin its return to the world stage as a leading player. Given that each of the five permanent members of the security council are also the first five nuclear weapon states, the association of national status and influence with nuclear weapons is visible to others. It is possible that India may have had such motivation in its bid to become the regional leader. It certainly feels that its population and economy merit much greater international influence than it is accorded. However, the changing international approach to proliferation means that India has not gained greater international status from its weapons. Indeed it is likely to have put back the possibility of it gaining permanent security council membership. Argentina and Brazil may also have been looking for status from their programmes.

If prestige is a declining factor in nuclear weapon acquisition, influence still remains important. In the post Cold War world, potential intervention by the more powerful international actors is a threat that worries a number of smaller countries. There is an assumption that this threat can be much reduced by the ownership of strategic weapons of mass destruction. The question is asked 'Would NATO have intervened in Kosovo against a nuclear armed Serbia?'. Iraq, Iran, North Korea, Libya and Taiwan can all use this thinking to justify weapons acquisition.

Bigger Bang for your Buck

In the early days, both American and British governments argued that nuclear weapons could provide a cheaper military capability than large conventional forces.^[31] John Foster Dulles is credited with boasting that they could give a 'bigger bang for a buck'. While the absolute cost of building an atomic bomb has dropped over the years, this argument is a less significant factor. Nuclear weapons do not replace conventional forces given their lack of utility for warfighting in the modern world. While the direct research, development and production costs may be much reduced, the economic implications for aspirant nuclear states can be adverse. The international community may show its disapproval of a nuclear programme through the use of economic sanctions as has been seen in Iraq. Nevertheless Iran seems to have decided that a nuclear programme may save it from spending more on conventional forces.

Internal Civilian and Military Pressures

While nations will justify their nuclear weapon programmes for external security reasons, there are often internal domestic pressures driving the procurement. The main drive in Britain immediately after World War 2 came from the military establishment^[32]. It was bureaucratic momentum that kept the French programme in being before de Gaulle came to power. Pakistan officials^[33] made it clear that they would have to respond quickly to India's test as much for domestic political reasons as anything else.

Today it is more difficult to envisage the decision to embark on a nuclear weapon programme as being taken as routinely as it was by Britain. The international community ensures that any state has to weigh up all the factors before taking on the restrictions which will inevitably follow. Internal pressures may accelerate (or inhibit) a programme which is already in being. They will also have an effect on the decision to remain a nuclear weapon state. Thus South Africa was able to stop its programme as part of its new internal structure. Britain has reduced its capability to just four submarines with missiles, and has no tactical weapons left. Yet internal political issues make it very difficult for it to go to the final step of nuclear disarmament.

Just in Case

An important consideration in nuclear doctrine is an inability to predict the future. China has never had a particularly consistent or logical nuclear doctrine. It appears that it wished to ensure that it had nuclear capability in case it became crucially important at some time in the future.^[34] Britain and France both used the arguments that they reinforced deterrence by being second centres of decision. If the Soviet Union were to think that the United States would not risk nuclear retaliation in order to defend Europe, then the French and British nuclear weapons entered the deterrence equation. They increase Soviet uncertainty and strengthened deterrence. Today the British nuclear force is entirely justified as an insurance policy against an uncertain future. While such arguments are used to retain nuclear weapons, they are usually insufficiently strong to be the primary drivers in the acquisition of such capabilities today, given the international difficulties that a potential proliferator faces.

Conclusion

Nuclear weapons are in decline. Both the number of nuclear states and the total number of weapons peaked in the 1980s. The decline in numbers of warheads is likely to continue unless missile defence deployments cause countermoves in China and Russia. The advantages of nuclear status are much more limited in the 21st Century than they were in the early years of the nuclear world. In those states where international isolation and insecurity feed on one other, nuclear weapons may still appear to provide some kind of solution. Unfortunately the suspicion of a

nuclear programme will increase the international isolation. Regional status can still be a factor, and increasingly it is likely that deterring intervention by the international community will be a motive for acquiring nuclear weapons. The problem is limited in scale, and can be addressed by reducing isolation, promoting democracy, and where necessary extending security guarantees. Confidence building measures have a place, but need time to work. In all of this the nuclear weapon states need to continue their agreed path to nuclear disarmament.

[1] *Hiroshima's Shadows* edited by K.Bird and L.Lifschultz (Connecticut: Pamphleteeris 1998) pp95-96 and p 255

[2] Statement by Igor N.Golovin in the *New York Times* 19 August 1966

[3] B Brodie, *The Absolute Weapon: Atomic Power and World Order* (Princeton:Arno, 1946) p73

[4] Television address entitled 'Peace and National Security' on 23 March 1983

[5] Sir Anthony Eden, *Full Circle*,(London: Cassell 1960) p554

[6] The Current Digest of the Soviet Press XII 19 February 1960 p10

[7] Although it can be argued that the Soviets were not at this stage were more interested in warfighting strategy than deterrence, the detailed defensive and offensive posture as described by J.Baylis & G.Segal, *Soviet Strategy*,(London: Croom Helm 1981) is convincing evidence for deterrence by denial advocates.

[8] *Defence:Outline of Future Policy 1957*, HMSO Cmnd 124, April 1957

[9] *Statement on Defence 1964*, HMSO Cmnd2270, Feb 1964 para 7

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