PART III

STRATEGIC CROSS-OVER:

'WAR-WAGING v 'WAR-AVOIDANCE'
Chapter 1

The United States and 'War-Waging':
Deterrence Through 'Usable Force'
A Non-Nuclear Option

Limitations of Massive Retaliation

When John Foster Dulles proclaimed the massive retaliation doctrine in 1954, a dramatic imbalance existed between the nuclear forces of the United States and the Soviet Union. However, the development of Soviet nuclear capabilities during the 1950s appeared to foretell the eventual achievement of strategic parity between the two countries, threatening to neutralise massive retaliation as a deterrent. Indeed, even in a strategic relationship far short of parity, superior US capabilities had frequently failed to influence international events. Speaking of American superiority, President John F. Kennedy's Defence Secretary, Robert S. McNamara, recalled:

... it did not deter Communist aggression in various parts of the world, as is illustrated by the Communist invasion of Korea, as is illustrated by the Communist pressure on Berlin in 1958 and as is illustrated by a series of other aggressive acts, political and military, by the Communists during the decade of the fifties.

In any event, whatever the character of the deterrence provided by our nuclear superiority at a time when we had a monopoly of such nuclear weapons, it is quite clear, I believe, that deterrence can be expected to be less at a time when the Soviet Union has sufficient nuclear power to damage severely this nation. And under these circumstances, it seems essential to me that our foreign policy be based also upon other forms of deterrent power, other forms of deterrence to activities less violent than those which the Soviets might expect us to respond to with our nuclear power. (1)

'Flexible Response'

As the effectiveness of nuclear deterrence appeared to have declined, the defence planners of the newly elected Kennedy Administration expressed their concern about the danger of a conventional Soviet military challenge which would confront America with little choice other than an inappropriate nuclear response or feeble inaction. They, therefore, argued for the development of a multi-option strategy, equipping the United States with a 'flexible response' capability adaptable to each of a broad range of contingencies. An American President must not be compelled to begin a nuclear war simply because he had no other means of resisting a Soviet advance. (2) The nuclear 'threshold' had to be significantly raised, providing for a credible deterrent and, deterrence failing, preparing for the conduct of war. A major expansion of conventional forces was clearly required. In 1962 President Kennedy warned:

Although a global nuclear war poses the gravest threat to our survival, it is not the most probable form of conflict as long as we maintain the forces needed to make a nuclear war disastrous to any foe. Military aggression on a lesser scale is far more likely. If we are to retain for ourselves a choice other than a nuclear holocaust or retreat, we must increase considerably our conventional forces. (3)

On the same theme, Robert McNamara advised:

An adequate level of non-nuclear strength will provide us with the means to meet a limited challenge with limited forces. We will then be in a position of being able to choose coolly and deliberately, the level and kind of response we feel most appropriate in our best interests and both our enemies and our friends will know it. (4)

(2) NYT, April, 1961, p.1.
(4) NYT, February 18, 1962, p.2.
It was imperative, in McNamara's view, to deliver the United States from an enemy 'superior' in conventional resources, who could conceivably hurl the USA along the scale of escalation, perhaps beginning at the tactical nuclear level and rapidly advancing to a full-scale nuclear exchange. A sizable conventional force would permit a possibly brief but perhaps critical pause between the outbreak of hostilities and the introduction of tactical nuclear weapons, an interval for reflection or negotiation in which civilian casualties and urban damage could be kept much below the levels which would result from the launch of even the smallest nuclear weapons. The Defence Secretary further warned that with only a nuclear option 'our friends ultimately could come to believe in the sincerity of Soviet threats'; they might then yield to 'Soviet blackmail'.(5)

NATO Commander, General Lauris Norstad predicted that any major conventional attack on western Europe would probably slide into a nuclear conflict. However, he advised that in order to slow the conventional-nuclear transition: 'It is necessary to have a combination of conventional and atomic weapons, that is, a balanced capacity that gives us the ability to respond to conventional arms with conventional arms and nuclear arms with nuclear arms'.(6)

In President Kennedy's words, the United States during the 1960s urgently required a flexible capability, preparing the country to confront aggressors with a 'suitable, selective, swift and effective ...' response, equipping America's leaders with the ability to 'make deliberate choices in weapons and strategy, shift the tempo of our production and alter the direction of our forces to meet rapidly

(6) NYT, February 9, 1962, p.11.
Changing conditions or objectives at very short notice and under any circumstances. (7)

A substantial conventional capability would also relieve the strain on the North Atlantic Alliance which a heavily nuclear strategy had imposed. There was understandable Alliance dissatisfaction with a strategy under which full authority for the launch of Europe's nuclear defence rested with the United States, leaving Europeans with only a minor role in perhaps the most critical decision in European history. Further, there was a decline in the credibility of any US pledge to defend Europe with nuclear weapons of any kind if such a move could lead to attacks on America's major cities. In addition to fears of American nuclear unreliability, there was also concern that the United States would, in fact, fulfil its nuclear obligations thereby accomplishing the devastation of Europe. Large conventional resources would provide America with a means of fulfilling her European commitments with greater safety and markedly increased credibility. (8)

No Abandonment of Nuclear Deterrence

Despite the newly intensified commitment to conventional strength, the administration was careful to emphasise that it had not abandoned nuclear deterrence. The nation's nuclear strike forces were not to be reduced in a shift to a new conventional strategy. Responding to an enquiry into the possibility of such a shift, President Kennedy said: 'I would not say it is a shift. I would say - these are proposals made by the Secretary (McNamara) which talk about a general

(7) Kolodziej, op. cit., p.382.
strengthening of our armed forces, including many areas'. (9)

'What is being proposed', Secretary McNamara explained, 'is not a reversal of our existing national policy, but an increase in our non-nuclear capabilities to provide a greater degree of versatility to our limited war forces'. (10) The deployment of large numbers of tactical nuclear weapons for possible battlefield use in the defence of Europe continued to play an important part in US planning. The administration's desire for improved conventional strength was not intended to permit a total abstention from nuclear weapons. Indeed, even a massive purely conventional attack along a broad front was to be met with a tactical nuclear defence. (11) However, the Kennedy Administration wished to define those circumstances clearly in which nuclear weapons of the strategic and tactical varieties could credibly serve in deterrent or combat roles, (12) as well as to establish that nuclear weapons were no substitute for the deployment of large conventional forces. (13)

Unlike the Eisenhower Administration, which regarded conventional forces largely as an emergency stop-gap, holding the line until its nuclear power could be employed, Kennedy planners insisted upon the ability to resist a relatively low level conventional advance by conventional means. (14) A strong conventional capability was also

(10) Kolodziej, op. cit., p.133.
necessary to meet aggressions of the Korean type, or crisis situations of the sort experienced in Lebanon and the Formosa Straits. (15) There was also the need to prepare for resistance against insurgency threats on the Greek or Malayan models. (16)

**Conventional Build-up**

**Non-Nuclear Force Requirements**

While both the Eisenhower and Kennedy administrations shared a public commitment to develop more than a simple massive retaliation capability, the Kennedy years recorded a greater practical achievement in the deployment of non-nuclear forces. At the time of President Kennedy's inauguration, Soviet conventional superiority was thought to be very considerable. In fact, Pentagon studies conducted in the 1960s were to reveal that a relationship of rough parity existed between the USA and the USSR in Europe. (17) However, in the early

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(15) Kolodziej, op. cit., p.329.

Kennedy years, the alleged existence of an alarming imbalance was often used to support the judgement that America's conventional strength was seriously inadequate.

Basing its calculations on a 'worst case' model, planning in both the Kennedy and Johnson years anticipated a Soviet move against Europe accompanied by a similar Chinese action in Asia and the outbreak of a relatively low level conflict in some other part of the world, (the two-and-a-half war contingency). In addition to the general purpose forces needed to deal with these contingencies, the United States was also thought to require a significant strategic reserve. (18)

**Non-Nuclear Force Levels**

After two years in the service of a flexible response policy, the administration had significantly enlarged the nation's non-nuclear options. By 1963 the Army had expanded from eleven to sixteen combat-ready divisions. The Air Force had grown from sixteen to twenty-one active tactical air wings. Army manpower totals had risen by 100,000 troops and the Special Forces were substantially strengthened. (19) The Marine Corps commanded three divisions with three air wings, (20) and the Marine Corps Reserve increased to a full fourth division/wing team. (21) These increases

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(20) Kaufmann, op. cit., p.79.

provided strategic reserves of approximately ten divisions. (22)

Air and sea-lift capabilities were increased, the modernisation of naval and tactical air-power accelerated, non-nuclear weapons and ordnance research intensified and the organisation, training and readiness of conventional forces improved. (23) The United States was prepared to deal with a major non-nuclear emergency of Korean proportions, with a substantial force in store for the possible development of a second conventional conflict. In response to a European crisis, America was also able to quickly treble the number of troops available for NATO service. With the deployment of the support equipment for two US divisions in Europe and the improvement in air and sea-life forces, it was possible to perform this trebling action without the dangerously slow and laborious piecing together of reserve forces. (24)

In the early 1960s, the Pentagon planned to reduce, although not entirely eliminate, the role of the Navy's carrier fleet in any general nuclear war, while expanding its conventional responsibilities. The carrier had been assigned a dual role: 'showing the flag' as well as serving in both limited conflicts and full-scale strategic wars. In 1962 and 1963, with the ICBM assuming a greater role, the administration foresaw a gradual reduction in the aircraft carrier's strategic nuclear mission. Kennedy planners also initiated


a re-examination of the projected construction of additional nuclear-powered carriers of the Enterprise type already in service. The Navy commanded fifteen attack carriers, nine of the Forrestal super-carrier class, a force which the Navy itself suggested could possibly be reduced to twelve. On the other hand, the role and number of the smaller anti-submarine carriers was to be expanded. (25)

Budgetary recommendations for the final years of the term in which President Kennedy had been elected - FY 1964 - continued the policy of strengthening America's non-nuclear forces. Measures proposed included an expansion of the material stores maintained for the supply of a conventional war effort in the period before US industry could begin to re-supply the armed forces. (26) The Army was to begin air assault training for 15,000 of the troops and its tactical air power was to be strengthened. The nation's conventional capabilities were said to have been so substantially increased during the Kennedy years that Deputy Secretary of Defence, Roswell L. Gilpatric predicted: 'We can hope for a levelling off ... for the next several years'. (27) In 1964 the Pentagon announced that since 1961 the United States had increased its combat divisions by 45%, tactical aircraft by 35%, airlift capacity by 75% and general ship construction by 100%. (28) Further, US special forces designed to combat insurgency movements had been increased eight times over, providing the Army with six special action forces on call throughout the world. (29)

(26) NYT, June 16, 1963, p.29.
(28) NYT, April 15, 1964, p.1.
(29) NYT, June 4, 1964, p.27.
Strategic Nuclear Forces

Invulnerability and Superiority

In the presidential election campaign of 1960 Senator Kennedy had repeatedly expressed concern over what was said to be the growing vulnerability of America's nuclear forces. (30) As the Soviet Union developed its strategic missile strength, an American deterrent based largely upon long-range bombers would become increasingly vulnerable to a Soviet surprise attack. There was also the problem of the nation's command and communication systems, most of which were open to an assault which could make effective retaliation impossible. (31) A major programme to reduce US vulnerability through increased strategic nuclear power was, therefore, a high administration priority. While Kennedy defence planners were soon to conclude that the United States would inevitably suffer terrible destruction in a nuclear exchange no matter how large America's peacetime deployments might be, during the early 1960s it was argued that the maintenance of US nuclear superiority was essential in the face of the Soviet Union's expanding strength. Although intelligence data revealed a still highly favourable nuclear balance, America's superior nuclear position was thought to require immediate attention if it was not to evaporate during the 1960s.

(30) For some of Kennedy's campaign criticisms of Eisenhower policy, see NYT, January 15, 1960, p.32; March 1, 1960, p.4; October 24, 1960, p.1; November 2, 1960, p.38.

Controlled Response

The growing 'threat' of Soviet ICBM strength and increasing vulnerability of American forces were seen to demand immediate countermeasures. Larger and less vulnerable forces would permit the United States to 'ride-out' or absorb a Soviet first-strike before retaliating against the USSR's urban-industrial areas, providing time to assess the nature of the attack, rather than touching off an immediate and massive blow against the full range of enemy targets. Such a capability would hopefully allow US policy-makers to launch a much more tightly controlled nuclear response to a Soviet attack than would have been possible in the Eisenhower years, a response appropriate to the character of the initial Soviet assault. Provision for a substantial American second-strike would permit the United States to decide whether to destroy only military installations or, if necessary, to obliterate the enemy's major cities. (32)

Robert McNamara explained:

'What we are proposing is a capability to strike back after absorbing the first blow. This means we have to build and maintain a second strike force. Such a force should have sufficient flexibility to permit a choice of strategies, particularly an ability to:

1) Strike back decisively at the entire Soviet target system simultaneously, OR

2) Strike back first at Soviet bomber bases, missile sites and other military installations associated with their long-range nuclear forces to reduce the power of any follow-on-attack and then, if necessary, strike back at the Soviet urban and industrial complex in a controlled and deliberate way'. (33)

(33) Kaufmann, op. cit., p.92.
Secretary McNamara conceded that American strategists could not 'forecast the nature of a nuclear attack upon the United States'. He also acknowledged that in a future war the USSR might well 'strike at the entire complex of our military power including government and production centres, meaning our cities. If they were to do so, we would, of course, have no alternative but to retaliate in kind'. However, he cautioned:

...we have no way of knowing whether they would actually do so. It would certainly be in their interest, as well as ours, to try to limit the terrible consequences of a nuclear exchange. By building into our forces a flexible capability, we at least eliminate the prospect that we could strike back in the only way, namely against the entire Soviet target system including their cities. Such a prospect would give the Soviet Union no incentive to withhold attack against our cities in a first strike. We want to give them a better alternative. (34)

While McNamara admitted that Soviet strategic force levels were not yet adequate to provide the USSR with a counterforce option, he explained:

In the future, as the character of their force changes, it is conceivable, although not likely, that they might strike our military installations with a first strike, withholding certain forces to later strike the cities. Now I don't want to be misunderstood on this. I don't think that this is probable. But I think it is sufficiently possible to warrant spending our resources to protect ourselves against it. (35)

Continued American superiority, with relative invulnerability, improved flexibility and control, would provide the United States not only with a more credible deterrent, but also equip America with a

(34) Kaufmann, op. cit., pp.92-93.
(35) Ibid., p.94.
'usable' war-waging capability should deterrence fail. In short, the revised strategy of flexible or 'controlled response' was to allow America to exploit the advantages of nuclear superiority fully, both in effective peacetime deterrence, as well as improved wartime capabilities. (36)

In a Commencement Address at the University of Michigan in June of 1962, Robert McNamara in effect proposed that both the United States and the Soviet Union tacitly agree to implement a counterforce strategy in the event of nuclear war, rejecting the massive retaliation principle. He explained:

The United States has come to the conclusion that to the extent feasible, basic military strategy in a possible general war should be approached in much the same way that more conventional military operations have been regarded in the past. That is to say, principle military objectives in the event of a nuclear war stemming from a major attack on the Alliance, should be the destruction of the enemy's military force, not his civilian population.

The very strength and nature of the Alliance makes it possible for us to retain, even in the face of a massive surprise attack, sufficient reserve striking power to destroy an enemy society if driven to it. In other words, we are giving a possible opponent the strongest imaginable incentive to refrain from striking our own cities. (37)

(36) Kolodziej, op. cit., p.335.

Signs of Change

As early as 1963 the Kennedy policy requiring strategic superiority, a counterforce option and a nuclear war-waging capability, began to show signs of wear. (38) In 1963 Secretary McNamara indicated that Soviet nuclear strength soon would achieve such proportions as to drain the concept of superiority of much of its operational significance. His public statements began to reflect declining confidence in the practicality of launching an effective counterforce strike and the likelihood of a purely counterforce exchange in the event of war, as well as the feasibility of actually waging a nuclear war. In March, McNamara said: 'I think that a kind of stalemate will become increasingly more controlling with the passage of time'. (39) However, the shift from 'war-waging' to 'war avoidance' was not to develop fully until later in the decade. (40)

Ballistic Missile Defence

The Kennedy years also began a modification in American thinking on ballistic missile defence (BMD). Whereas anti-ballistic missiles (ABM) had been considered within the context of an offensive-defensive duel, in 1963-64 ballistic missile defence was for the first time placed within 'the overall strategic weapons complex, along with the civil defence "counterforce weapons" and anti-submarine defences'. (41) It was argued by some that a BMD deployment

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(38) See below, Section III, Chapter 3.
(40) Quester, op. cit., pp.240-250; Moulton, op. cit., pp.275-278.
would certainly reduce American casualties if only by forcing the USSR to replace some of its nuclear payload with decoys. Still another conceptual innovation applied to strategic defence was the development of the 'cost-exchange ratio'. It compared the cost of defending a given percentage of the population with the added cost to the enemy offence of compensating for these defences. Nevertheless, the advocates of ABM deployment in the Kennedy years continued to suffer the frustrations of the Eisenhower period. Concluding that the great expense of a highly complex and very possible unworkable BMD system would not be justified on a cost-effective basis, as well as that the best protection against attack lay in America's offensive deterrent forces, the President's 1964 budget message spoke only of a decision to proceed with anti-missile research.

Strategic 'Quick-Fix'

SLBMs

The efforts of the Kennedy Administration to deploy invulnerable strategic forces capable of absorbing a Soviet assault and going on to launch an appropriate counter-strike, can be traced in a series of 'quick-fix' measures designed to enlarge the nation's strategic forces, reducing their vulnerability and improving their responsiveness. One such measure was the acceleration of the move from the first generation liquid-fuelled missiles of the Atlas and Titan types to the solid-fuelled Polaris and Minuteman ICBMs.

(43) NYT, June 14, 1964, p.72; July 24, 1964, p.7.
(44) Kolodziej, op. cit., p.336.
(45) Enthoven, op. cit., p.168.
In President Kennedy's first State of the Union message, the President proposed the acceleration of the **Polaris** submarine programme and a general increase in the country's 'entire missile' strength. The Navy received by far the largest share from the Kennedy increases in the last Eisenhower budget, winning $1,364,500,000 out of a total increase of $1,954,000,000.\(^\text{(46)}\) Unobligated funds of over $120 million already appropriated for the Navy, as well as an additional $600-800 million, were to be used to speed the Polaris programme.\(^\text{(47)}\) The President and the Pentagon also proposed that the **A-2 Polaris** missile with its 1,500 nautical mile range should be abandoned or slowed. The then operational 1,200 mile missile was to remain in service while the development of the 2,500 mile range **A-3** weapon was speeded, saving money by avoiding the intermediate developmental stage. The Navy argued in opposition that work on the **A-2** had already gone so far that little would be saved in time or money by cancelling the programme. Further, Naval officers held that the **Polaris** submarines **George Washington** and **Patrick Henry** had already been assigned potential targets for their 1,200 mile missiles which would bring them close to the coast of Europe. The Navy felt that the **A-2s** increase in range of 300 miles would provide operational flexibility and greatly complicate the enemy's problems of detection.\(^\text{(48)}\) The **A-3** was to be armed with a new warhead type which would eventually be superseded by dramatic warhead developments later in the 1960s. The **A-3** warhead, the so-called 'Claw', was composed of three separate warheads to be detonated in a tight pattern over a single target.

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\(^\text{(46)}\) NYT, April, 18, 1961, p.19.  
\(^\text{(47)}\) NYT, January 31, 1961, p.17.  
\(^\text{(48)}\) NYT, April 18, 1961, p.19.
making the 'Claw' a **Multiple Re-entry Vehicle or MRV**.\(^{(49)}\)

Research was also underway on the development of a **Multiple Independently Targeted Re-entry Vehicle or MIRV**.\(^{(50)}\) In 1962 the President announced that the administration had 'more than doubled our acquisition rate of Polaris submarines'.\(^{(51)}\) The FY 1963 budget proposals requested funds for an additional twelve Polaris submarines, raising the total fleet to forty-one ships. By 1962, six Polaris submarines were already operational.\(^{(52)}\) Two years later the Pentagon claimed sixteen Polaris submarines, armed with 256 ballistic missiles, with twenty-five more missile-firing submarines under construction.\(^{(53)}\) The Soviet submarine force was described as commanding 'substantially fewer' missiles, with a range of less than 500 miles, launched from a still largely diesel powered submarine fleet.\(^{(54)}\)

**ICBMs**

In the area of land-based missiles, Dwight Eisenhower's last defence budget had proposed the first procurement of the solid-fuelled Minuteman missile, as well as an increase in Atlas production yielding a total force of twenty-seven Atlas missiles.\(^{(55)}\) In the early 1961 the US missile arsenal included sixty Thor ICBMs based in Britain, thirty Jupiter missiles in Italy and fifteen more to be deployed in Turkey. There were about twelve ICBMs ready to fire in the United States and six to ten more approaching operational status.\(^{(56)}\)

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\(^{(51)}\) *NYT*, January 12, 1962, p.12.


\(^{(53)}\) *NYT*, August 28, 1964, p.16.

\(^{(54)}\) *NYT*, April 15, 1961, p.1.


\(^{(56)}\) *NYT*, February 1, 1961, p.16.
The great obstacle to an expansion of the nation's ICBM forces was base construction. The Kennedy defence budget for 1962 proposed to double Minuteman production and to deploy three fixed-base squadrons of about fifty to fifty-five missiles per squadron, rather than the three mobile squadrons previously planned, constructing a total Minuteman force of 450-500 ICBMs 'hardened' in concrete silos. (57)

Further, the Air Force scheduled about 110 Titans and 148 Atlas liquid-fuelled missiles for a total force of 700-760 fixed-site intercontinental missiles, added to the Navy's 464 Polaris missiles. (58)

After more than a year of President Kennedy's leadership, the United States had deployed fifty-four Atlas missiles and was due to add the Titan ICBM to its arsenals very shortly. (59) The administration doubled Minuteman productive capacity, (60) requesting funds for two hundred of the 6,300 mile Minuteman weapons. By 1963 the United States commanded 500 operational long-range missiles - Atlas, Titan, Minuteman and Polaris. The projected total for 1966 was 1,500 long-range missiles of all types. (61)

Describing the expansion of American missile forces in 1964, Cyrus R. Vance, Deputy Secretary of Defence, observed: 'Since 1961 there has been a 150% increase in the numbers of nuclear warheads and 200% increase in the total megatonnage in our strategic forces'. (62)

In early 1964 the retirement of the liquid-fuelled Atlas was announced and the development of the advanced Minuteman II, with increased range

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(57) NYT, April 18, 1961, p.19.
(58) Ibid.
(59) NYT, March 26, 1962, p.9.
(60) NYT, January 12, 1962, p.12.
(62) NYT, August 28, 1964, p.16.
(from 6,300 to an estimated 9,000 miles), and versatility was disclosed. The Air Force campaigned for the addition of 150 Minuteman II missiles to the 950 Minuteman already planned, but in the end, settled for only fifty of the new weapons. By 1964 the US Air Force commanded some 800 ICBMs, most of which were based in concrete silos, providing the United States with a more than four-to-one advantage over the estimated Soviet force of 188 ICBMs.

With such overwhelming superiority in land-based weapons, added to America's advantage in submarine launched missiles and strategic aircraft, the United States had achieved as near to a first-strike capability as she was ever again to command. The actual American position on the launch of a first-strike or pre-emptive attack was not clear. However, the Kennedy deployment programme provided the United States with a first-strike option. The American achievement of margin of superiority amounting to a first-strike posture may have been one of those factors which prompted Mr. Khrushchev in October of 1962 to begin the deployment of intermediate range missiles in Cuba, touching off the 'Cuban missile crisis'.

(63) NYT, January 22, 1964, p.1.


(65) Young, op. cit., pp.172-173; Moulton, op. cit., p.56.

(66) Quester, op. cit., pp.233-247; Bottome, op. cit., pp.88-95; Young, op. cit., pp.173-175; Moulton, op. cit., pp.93-100; On the Cuban missile crisis, see below, Section III, Chapter 2.
Strategic Aviation

The dramatic rise in the proportions of American long-range missile forces was accompanied by a decline in the status of strategic air power. The origins of the bomber's decline can be traced to the previous administration's cut-back in the B-70 bomber programme. The B-70, a proposed successor to the B-52, was slowed by Eisenhower planners on the grounds that it would take too long to produce, entering service at a time when American forces could best be strengthened in other ways. (67) The Kennedy Administration also decided to curtail the development of the B-70, agreeing to proceed only with a test aircraft. Secretary McNamara told Congress that the B-70 was 'an extremely complex and costly aircraft' and would be vulnerable to attack in the air and on the ground. He also said that the B-70 would not be operational in significant numbers until 1968. 'Well before time', he explained, 'we expect to have a large number of intercontinental ballistic missiles fully tested and in place, as well as a still substantial manned bomber force equipped with air-to-ground missiles'. (68)

The relative decline in the role of manned bombers certainly did not herald their disappearance from the nation's strategic forces. However, in the opinion of Kennedy planners, the United States already commanded adequate bomber forces. It was the ICBM arsenal which required expansion if US defences were to be properly balanced. Even without any further improvements, by 1961 the United States commanded the world's most powerful bomber force, with over 600 long-range B-52s added to more than forty supersonic Convair B-58

(67) NYT, January 29, 1960, p.6.
(68) NYT, April 12, 1961, p.10.
medium bombers. While the aged B-47 medium-range aircraft would eventually disappear, more than 1,000 B-47s remained in service. In 1961 the effectiveness of SAC was significantly improved when the administration received the legislative authority to increase the number of bombers on quick-reaction ground alert from one-third to one-half of SAC's strength and completed preparation for an emergency airborne alert affecting one-eighth of SAC's B-52 force.

In 1962, as part of the Kennedy policy of creating an invulnerable second-strike capability, the administration planned a force of 630 B-52 bombers organised into fourteen wings by the end of the year. In 1962 the United States also commanded fifty-five B-58s and 1,000 B-47s. A small reduction in Air Force spending was made possible by the administration's consistent refusal to continue B-52 production beyond 1962. On October 26, the Air Force took delivery of its last contracted B-52 bomber. In September, the last B-58 Hustler was produced. However, the North American Aviation Corporation continued its work on the B-70 programme, in the same year the administration announced the cancellation of Skybolt, a ballistic missile designed for launch from a B-52, delivering its nuclear warhead over a range of 1,000 miles. Skybolt was thought to be expensive, insufficiently accurate, and vulnerable to destruction when its B-52 launcher was on the ground.

(69) NYT, July 16, 1961, Section IV, p.4.
(70) Kaufmann, op. cit., pp.53-54.
(72) Kolodziej, op. cit., p.407.
(74) NYT, November 2, 1962, p.62.
SAC bombers, numbering more than 2,000 in 1959, were reduced to 1,200-1,300 by 1963 due to the retirement of part of the B-47 force, which was scheduled to disappear entirely by 1966. There were also 900 air-refuelling tankers and reconnaissance squadrons in service. The total bomber force was expected to fall to 700 B-52 and B-58 aircraft by 1968.\(^{(76)}\)

By 1964, the Air Force commanded about 1,100 bomber aircraft, B-47s, B-52s and B-58s of which some 540 bombers were constantly on alert, as opposed to Soviet bomber strength estimated at 120 heavy aircraft and 150 medium bombers.\(^{(77)}\) No further US bomber construction was undertaken, although there were several aircraft under development which could have been chosen as the bomber of the future: the B-70, the RS-70, (a reconnaissance-strike derivative of the B-70), the F-111 (TFX) and the SR-71, a reconnaissance aircraft which was thought to have some bomber potential. However, the administration remained firmly opposed to producing any of these aircraft.\(^{(78)}\)

**Command and Control**

Another feature of the policy of flexible and firmly controlled response included a substantial effort to expand and secure the nation's strategic command and control systems by constructing additional command centres, introducing new accident prevention measures, improving communications facilities and establishing a new National Military Command System.\(^{(79)}\)

\(^{(77)}\) *NYT*, April 15, 1964, p.1; August 28, 1964, p.16.
Strategic Defence

The Kennedy years also brought improvements in strategic defence. This effort included the strengthening of defences against bomber attack, and a proposed programme of fallout shelter construction. In the area of missile defence, the Eisenhower Administration had consistently decided against the deployment of the Nike-Zeus ABM system. A decision which Kennedy planners did not reverse. In 1961 Secretary McNamara opposed a Nike-Zeus deployment as there was 'still considerable uncertainty as to its technical feasibility'. It also remained too costly 'in relation to the degree of protection that it can furnish'. However, in 1963 the administration announced a new and improved ABM research project. Nike-Zeus had been intended to intercept attacking ICBMs above the atmosphere or in very 'thin' air, its major flaw being its inability to distinguish between warheads and decoys. It was now decided to rely upon the earth's atmosphere to do the job of discrimination by incinerating the unshielded decoys. The high acceleration Sprint missile was, therefore, to be married to the Nike-Zeus system as the means of destroying incoming re-entry vehicles at low altitude. Yet another advance in missile defence technology was marked by the introduction of two new phased array radars, MAR (Multi-function Array Radars), to discover and then discriminate among approaching re-entry vehicles, and MSR (Missile Site Radar) to guide both Sprint and the long-range Zeus missile to...
target. The new radars eliminated the slow mechanical system of Nike-Zeus relying upon an electronic method of dealing with several warheads simultaneously. This blend of old and new - Zeus, Sprint and phased array radars - was designated Mike-X. However, despite these improvements, missile defence was maintained at a developmental stage. The 1964 budget message did not propose ABM production, but only a decision to proceed with the research effort. (86)

Assessment of the Role of Action-Reaction
During the Kennedy Years
Evidence of Reaction
Search for Increased Options and Flexibility

Defence policy in the Kennedy years was probably as much a fully 'home grown' American product as that of any other period since the end of World War II. Nevertheless, it is possible to identify aspects of Kennedy strategy and planning which related to Soviet actions. During the Eisenhower and Kennedy years the continuing development of the Soviet Union's strategic nuclear capabilities, coupled with her substantial conventional strength, sharply accentet the weaknesses of any single or nearly single option American strategy. The expansion of Soviet capabilities inspired or reinforced the firm conviction that the United States must acquire an extensive range of political and military options through a more 'balanced' force structure. Even if America's massive nuclear capability retained considerable

deterrent affect, as well as combat utility, against a full-scale Soviet attack, it was all but completely useless in the face of a wide range of lower level challenges which the USSR might conceivably advance. If the United States was to deter or resist Soviet aggression, it must command armed forces which were actually capable of successfully meeting the USSR on any one of several levels of conflict.

'Flexible Response' and the Conventional Build-Up

The awareness of the need for armed forces with greater war-waging utility gave rise to the strategy of 'flexible response'. While the Eisenhower Administration had also announced its commitment to a 'limited war' or 'graduated deterrence' capability, it consistently declined to approve the increase in America's non-nuclear forces which such a capability was thought to require by many New Look critics, preferring instead to turn again to nuclear power - on this occasion in the tactical mode - to 'counterbalance' the USSR's conventional strength. Kennedy strategists did not abandon tactical nuclear weapons. Any attempt to emulate Soviet deployments in Europe was still considered far too costly. However the concern over the expansion of the USSR's nuclear capabilities coupled with her 'superior' conventional strength - an assessment based upon an over-estimation of Soviet strength in Europe - prompted the Kennedy Administration to 'react' far more vigorously to Soviet developments than the previous administration had ever thought necessary. The global scope of American treaty commitments and interests also moved the administration to develop forces to combat Communist insurgency campaigns outside the European theatre. It was the wide scope of US interests which persuaded the Kennedy and Johnson planners to prepare for something like a 'two-and-a-half war' contingency.
Evidence of the Influence of Other Factors on Kennedy's Policy

Controlled Response

If the Kennedy commitment to an improved conventional war-waging capability can be credited to the maintenance of large Soviet theatre forces, the programme for a similar improvement in the nation's nuclear capabilities cannot be charged to existing Soviet nuclear force levels. At the very most, the efforts to acquire 'usable' nuclear power might be linked to American projections of possible Soviet developments in the future. In fact, the administration's desire for a 'controlled response' capability - precisely gauging an American second-strike to the scope of a Soviet attack - was largely born of the Pentagon's sophisticated theorising and analysis of nuclear warfare, as well as the judgement that credible deterrence and prudent defence required the most effective war-waging capability possible.

Secretary McNamara's proposal of a 'counterforce pact' between the United States and the Soviet Union was first the consequence of an expansion in American nuclear forces which presented the United States with a counterforce option. It was also related to the Pentagon's apparent belief that the scope of even a strategic nuclear exchange could be effectively limited, permitting the establishment of 'rules' for the conduct of nuclear warfare. However, the Defence Secretary's University of Michigan speech was also likely affected by the Soviet Union's strategic capabilities, still much inferior to those of the United States and unable to launch a counterforce blow. With a countercity attack the only realistic

(87) Young, op. cit., p. 173.
basis for Soviet deterrence, there were obvious advantages for the United States in the USSR's acceptance of targeting 'rules' limiting nuclear assault to military installation, targets against which a Soviet strike could not hope to have the affect which might be achieved against large 'soft' urban areas.

**Superiority and Invulnerability**

The apparent belief of Kennedy strategists that invulnerability demanded overwhelming superiority cannot be regarded as a reaction to any particular Soviet action or as an emulation of Soviet policy. Indeed, Mr. Khrushchev's seeming acceptance of strategic inferiority reflected the view that reasonable security could be had even without parity, let alone superiority. The US assessment of the relationship between superiority and invulnerability was entirely a native American judgement. The Soviet Union never seriously challenged American superiority or the security of US deterrent forces except in the brief and ill-starred Cuban missile episode. At most, the administration's view that invulnerability demanded further deployments can only be attached to American estimates of future Soviet force levels. Similarly, the first signs of declining confidence in the value of nuclear superiority and the feasibility of a counterforce strike in particular or nuclear war-waging in general, must be charged to predictions of the USSR's future deployments, as well as to Pentagon speculation as to their significance for the Soviet-American strategic relationship.
Strategic Nuclear Deployments

The major reinforcement of US strategic nuclear forces carried out in pursuit of the objectives of the Kennedy nuclear strategy - amounting to the deployment of a first-strike capability - cannot be described as a response to Soviet actions. In the clear absence of any crash programme of missile or bomber construction in the USSR, the US build-up (88) is perhaps explicable within the context of the strategic goals established by the administration for itself: a 'war-waging' or 'winning' posture, involving 'usable' nuclear power, a 'controlled response' - counterforce capability, a position of superiority and heavily insured invulnerability. In other words, the deployments of the Kennedy years essentially represented an administration 'reaction' to the demands of its own strategic doctrine, rather than a response determined by the USSR. (89)

Some responsibility for the massive expansion of the 1960s must perhaps be assigned to the efforts of the armed forces and their industrial allies in winning approval for a dramatic boost in US deployments. However, President Kennedy came to office committed to increasing American nuclear strength and seemed to require little encouragement from any quarter in fulfilling that pledge.

Strategic Aviation

The declining status of strategic aviation also stemmed from domestic sources. The diminishing role of long-range bombers was the product of the American assessment of the ICBMs demonstrated capabilities. Kennedy planners - like many of their counterparts

(89) Young, op. cit., p.173.
in the Soviet Union - concluded that the dramatic development of
the long-range missile had unquestionably displaced the manned
bombers as the most effective nuclear delivery system. On the
other hand, the continued maintenance of a very substantial bomber
force and an R & D programme for bomber development was the result
of the American conviction that credible deterrence required an
invulnerable strike capability which was best provided by a 'triad'
of strategic weapons system: ICBMs, SLBMs and bombers.
Invulnerability and reliability forbade reliance upon any single
system. The survival of a powerful Strategic Air Command was also
advanced by the influence of the US Air Force and its advocates
within the US Congress and American industry.

**Ballistic Missile Defence**

The Kennedy Administration's refusal to deploy an anti-ballistic
missile system - approving only a programme of further research -
was essentially based upon those largely non-responsive factors
which had consistently persuaded President Eisenhower to oppose an
ABM deployment. The technical problems involved in successfully
resisting an ICBM attack prevented any confidence in the effect-
iveness of the heaviest Nike-Zeus or Nike-X deployments. Further,
the expense involved in constructing a system of highly questionable
reliability was unacceptable even to an administration firmly
committed to a major strategic nuclear build-up.
During the Kennedy years the requirements of credible deterrence and effective defence were thought to be fully satisfied only by the deployment of 'usable' military power, providing a 'war-waging', indeed a 'war-winning' capability in both conventional and nuclear terms. In so defining deterrence the declaratory doctrine of the Eisenhower and Kennedy periods were essentially similar. The previous administration had also argued that deterrence and defence were best served by a demonstrated capability to wage war. However, under President Kennedy, the war-waging principle present in Eisenhower declaratory doctrine received much closer attention as part of a general emphasis on the need for a strategic doctrine and force structure which would prove effectively 'usable' in the actual conduct of conventional and nuclear operations. This increased emphasis on operational utility generated sophisticated theoretical considerations of strategic warfare - concepts of controlled or limited nuclear war - in which each side was obliged to observe 'rules' of a kind governing the conduct of a major nuclear conflict.

However, despite McNamara's 'rules' the actual divergence between Eisenhower and Kennedy plans affecting nuclear operations may not have been as great as a reading of declaratory doctrine alone appears to suggest. In comparing the positions of the two administrations, Hanson W. Baldwin, Defence Correspondent for the New York Times, concluded in 1965 that America's operational war plans under President Kennedy did not, in fact, significantly differ from the
Eisenhower schema. The target assignments of the Strategic Air Command remained essentially unchanged: a mix of urban, industrial, political and military centres. Baldwin recalled that the earliest version of the massive retaliation doctrine, apparently prescribing nuclear weapons for conflicts of every kind, had been modified by the Eisenhower Administration itself. He saw the 'new' flexible nuclear strategy as little more than a rephrasing of massive retaliation 'by means and at places of our choosing', retaining the 'clear and unmistakable ability to destroy an aggressor as a viable society even after our forces have been attacked'.(90)

Nevertheless, while the Kennedy Administration was not responsible for any profound revolution in American doctrine, its assessment of the requirements of deterrence and defence in terms of conventional and nuclear deployments obviously differed significantly from the Eisenhower view. Despite the eventual concession of the need to prepare for more than a large scale conflict, the economising Republican leadership never approved major increases in non-nuclear strength. Admitting the danger of a Soviet conventional challenge in Europe, Eisenhower planners chose to rely on tactical nuclear weapons as the appropriate 'response', literally declaring these weapons to be 'conventional'. By contrast the Kennedy understanding of deterrence and defence required an increased ability to resist a Soviet advance without resorting to nuclear weapons of any kind. Although the President made clear that tactical nuclear weapons would play a major role in the defence of Europe against a general assault,

and that nuclear deterrence remained the prime US objective, the administration sought to raise the nuclear threshold to the highest level possible short of actually achieving 'parity' with the USSR on the ground in Europe.

Kennedy planners also interpreted the requirements of deterrence as demanding very much higher nuclear force levels than the previous administration had thought necessary. The Eisenhower years witnessed a declaratory rejection of superiority, except as a short-term goal, in favour of a doctrine of 'sufficiency'. During the early 1960s the United States firmly adhered to superiority as essential for an invulnerable deterrent, accelerating US missile deployments and eventually achieving a greater margin of strategic nuclear superiority than the United States would ever again enjoy. In short, during both the Eisenhower and Kennedy periods, deterrence was essentially expressed in terms of the capacity to wage war successfully. However, while retaining the essence of the previous administration's strategic viewpoint, John Kennedy presided over a very considerable elaboration of American strategic thought affecting the conduct of a nuclear war, as well as a much increased estimate of the conventional and nuclear force requirements of deterrence and defence.

Action-Reaction

Neither the Eisenhower nor the Kennedy decision to rest American deterrence upon a war-waging capability can be charged to any particular action of the USSR. It instead rested upon an independent American assessment of the nature and requirements of deterrence, an assessment which - if strategic deployments are taken as evidence - the Soviet Union did not share. Similarly,
the intensified interest in 'war-waging' and the development of a 'usable' strategic doctrine, as well as 'usable' military power under the Kennedy leadership cannot be tied directly to Soviet actions. The elaborate theories of controlled response and limited nuclear warfare were much more the product of the Pentagon's sophisticated analysis of nuclear warfare than of any Soviet initiative.

As to the administration's understanding of the force level requirements of credible deterrence, those American measures taken to increase US general purpose forces can be linked to Soviet policy, although these measures were based upon inaccurate estimates of Soviet ground strength in Europe and also included preparations for conventional conflicts outside the Soviet-American context. It is certainly very difficult, indeed, to charge Mr. Khrushchev and his policy of 'minimum deterrence' with responsibility for the dramatic Kennedy expansion of US nuclear forces. This expansion was, in fact, chiefly inspired by the strategic objectives established by the administration for itself. In short, US deterrence doctrine during this period, both in terms of its declaratory principles, as well as in its deployments, represented a native American achievement.
Chapter 2

The Soviet Union and 'War-Avoidance':

Khrushchev Retains 'Minimum Deterrence'
Modernist-Traditionalist Debate

The post-Stalin controversy over the strategic implications of modern weapons technology continued in intensified form during the 1960s as Premier Khrushchev substantially reformed Soviet strategic doctrine, provoking strong protests from the armed forces. In the Soviet Union, as in the United States, much of the discussion centred around the significance of missile-nuclear systems, with a so-called 'modernist' faction arguing that the new weapons technology had revolutionised warfare, greatly diminishing the importance of all other weapons and the utility of established strategic concepts, while those of a 'traditionalist' persuasion maintained that non-nuclear forces retained great value, along with the strategic lessons of the Great Patriotic War.

The 'modernist'-'traditionalist' dispute involved differences over a wide range of issues. 'Modernists' regarded Soviet nuclear forces as an effective deterrent to war, while 'traditionalists' estimated the possibility of war as dangerously real. (1) Assured of the effectiveness of the USSR's nuclear deterrent, 'modernists' generally favoured reduced defence spending and increased investment in the civilian economy, while 'traditionalists'

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fearing an American attack, argued for generous defence spending and a growing investment in defence related industries. (2) The significance of missile-nuclear forces was regarded as decisive by 'modernists', transforming the nature of modern warfare and substantially reducing the role of all other weapons systems and conventionally equipped armed services. (3) In contrast, 'traditionalists' regarded the new dominance of the Strategic Missile Forces as threatening the establishment of a rigid and highly theoretical dogma, untested in war, inhibiting the development of Soviet strategic thought (4) and unwisely discounting the still vital mission of ground armies. (5)

'Modernists' and 'traditionalists' also divided on the question of the Great Patriotic War experience as a guide to future conflicts, with 'modernists' regarding the Soviet-German struggle as remote from the problems of future wars and 'traditionalists' arguing that its lessons remained highly

relevant.\(^{(6)}\) The two factions also split on the issue of strategic superiority. 'Modernists' were satisfied with only a qualitative advantage over the United States, while 'traditionalists' insisted upon massive quantitative superiority over the Americans.\(^{(7)}\) The two schools also quarrelled over the course of a future war after the failure of deterrence. 'Modernists' held that a major conflict would prove a devastatingly destructive but brief struggle in which the initial nuclear phase would be decisive. The outcome would hang on the strength of each side's peacetime forces-in-being. In opposition, 'traditionalists' expected a protracted war in which the initial nuclear phase would fail to decide the contest, providing a still vital role for general purpose forces, both active and reserve.\(^{(8)}\)

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\(^{(7)}\) Wolfe, \textit{op. cit.}, pp.83-84.

Finally, the adherents of the two opposing strategic philosophies disputed the significance and likelihood of an American surprise attack, with 'modernists' fearing that a nuclear surprise would largely decide any future war but confident that Soviet strategic forces effectively deterred the United States from attack. 'Traditionalists', on the other hand, did not expect a surprise blow to be conclusive but, nevertheless, warned of the great danger of a surprise American strike. (9)

Declaratory Doctrine

Likelihood of War

During the early 1960s, the official position of Premier Khrushchev and his supporters on the issues involved in the 'modernist'-'traditionalist' controversy normally inclined in the 'modernist' direction. On the question of a durable peace with the United States, Mr. Khrushchev warned: 'We still cannot completely prevent the possibility of wars ...'.(10) Nevertheless, while the persistent danger of war was admitted, Khrushchev continued to held that war between east and west was no longer inevitable. It was argued that war had never, in fact, been 'a mandatory condition for the development of revolution'.(11) The laws of history, guaranteeing the ultimate victory of socialism, did not require military assistance to complete their operation.(12)

Ideology aside, the probability of a violent east-west struggle had been greatly reduced as a result of the dramatic expansion of Soviet military strength. In the opinion of Khrushchev, as well as many modernist commentators, the western leadership undoubtedly contained aggressive 'lunatics' with whom

(10) Gehlen, op. cit., p.106; Sokolovskii, op. cit., pp.381-397.
(11) Gehlen, op. cit., p.104.
(12) Ibid.
no peaceful accommodation was possible; but, there were also
a large number of 'realistic' leaders aware of the capabilities
of the Soviet armed forces and the consequences of a major
war. As long as these 'realistic' elements remained dominant,
'agreements with the capitalists countries on the basis of
constructive proposals' were possible. War was by no means
inevitable, and the USSR could even safely consider reductions
in defence spending. (13)

Significance of Missile-Nuclear Forces

On the question of the implications of modern weapons
technology for the conduct of a future war and the relative
significance of nuclear versus conventional forces, the personal
position of Khrushchev was cast in a strongly modernist form.
Premier Khrushchev's historic speech before the Supreme Soviet
on January 14, 1960 set forth a doctrine of nuclear deterrence

(13) Gehlen, op. cit., pp.77-78; T.W. Wolfe, Soviet
Power and Europe, 1945-1970, Baltimore and
London: The Johns Hopkins Press, 1970, pp.156-
159.
implemented by the Strategic Missile Forces as the centre-piece of Soviet strategy.\(^{14}\)

The publication of *Soviet Military Strategy* with Marshal V.D. Sokolovskii as its editor, illustrated the move from a concentration on conventional conflicts to an emphasis on intercontinental nuclear war, largely waged by long-range missiles. The Sokolovskii study stressed the profound influence of modern weapons upon strategy, saying: 'Military strategy and military art as a whole, have undergone a revolution'.\(^{15}\) The nuclear-tipped missile was now the decisive factor in warfare. The development of the ICBM and the nuclear warhead was said to have radically altered 'the methods of conducting war',\(^{16}\) with the result that 'a war of a wholly new nature is fore-ordained'.\(^{17}\) Discussing the relative significance of nuclear and conventional forces, the Sokolovskii authors explained that in another great was: 'Massive missiles - nuclear blows will be of decisive importance'.\(^{18}\) Nuclear strikes:

cannot be made directly dependent on the course of battle between adversaries in direct contact on the ground front.\(^{19}\)

\(^{14}\) See below, Section II Chapter 4.

\(^{15}\) Sokolovskii, *op. cit.*, p.295.


\(^{19}\) *Ibid.*
Today, the Strategic Missile Forces, which are -

the main weapon of modern war, will not
accommodate their operations to those
of the Ground Forces, but vice versa.
The Ground Forces should exploit missile
strikes fully in order to execute their
own missions rapidly. (20)

The Sokolovskii authors advised: 'The mission of strategic
weapons ... has become more important than that of troops ...'. (21)
Persuaded of the radical change brought by modern weapons
development, the Soviet Premier established the Strategic
Missile Forces as an independent armed service, promising that
its tremendous contribution to national security would make a
reduction in military manpower levels possible. (22) In addition
to land based ICBMs, Sokolovskii also credited submarine launched
missiles with important, although less than decisive, capabilities. (23)

While concessions were made to the continued importance of
the ground forces, Khrushchev's establishment of long-range
missiles as the dominant feature in Soviet doctrine by no means
went unopposed within the armed forces. Speaking in October of
1961, Marshal Rodin Malinovskii appeared less confident about the
effectiveness of the Soviet nuclear deterrent than the Party

(20) Sokolovskii, op. cit., p.402.
(21) Ibid., p.306.
(22) Gehlen, op. cit., p.74.
Chairman. (24) He also departed from Khrushchev's example in failing to second the view that the nation's missile-nuclear forces would prove the key to victory. The Marshal instead advised that Soviet defence rested upon the 'combined action of all arms and services' in a war in which 'mass, multi-million man armed forces' would figure prominently throughout a struggle which would presumably run considerably beyond the initial nuclear stage. (25) Malinovskii's view on the


continuing significance of non-nuclear forces seemed to suggest that the Premier's assessment of conventional armies and weapons was incorrect and his promised reduction in troop levels imprudent. Writing in 1963, Colonel I. Korotov confirmed that in the early 1960s, 'some comrades still did not consider the missile a decisive instrument of victory'.

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(26) Sokolovskii, op. cit., p.18.

Strategic Air Power

The establishment of long-range missiles as the decisive element in Soviet doctrine not only diminished the significance of the ground forces, but also clearly subordinated the manned bomber to the ballistic missile. Although the status of strategic air power was never precisely clarified in this period, Khrushchev began to speak of the bomber as a weapon system with a very limited future soon after the USSR demonstrated an ICBM capability. (28) However, while the Russians sought to characterise the strategic balance at the height of America's 'missile gap' fears as a confrontation between Soviet ICBMs and obsolete western bombers, a growing American awareness of the USSR's meagre missile arsenal produced a re-evaluation of the strategic bomber. From the autumn of 1961, the Soviet strategic capability was described in terms of the full array of delivery systems, rather than ICBMs alone. The long-range bomber was said to have extended its operational utility by the development of such weapons as the stand-off cruise missile. (29) The first Sokolovskii edition also noted that the bomber had been improved by the development of supersonic jet engines and air-to-surface

(28) See below, Part II, Chapter 4

missiles. The gradual replacement of these aircraft by the ICBM could, in any case:

take a long time and if war breaks out bombers and missiles could be used simultaneously to attack targets located deep within enemy zones and, theatres of military operations. This is all the more likely, since aircraft have still not completely exhausted their combat potential. By arming bombers with various types of (air-to-surface) missiles, capable of delivering blows at great distances, these in a number of cases could operate beyond zones of active defence and execute combat missions effectively enough. (30)

In 1958 an Air Force statement argued that aircraft remained valuable not only for service in combined naval and ground operations, but because they 'could also annihilate the opponent's strategic targets'. The deployment of the ICBM did not mean 'that aircraft had outlived their day and that missiles will completely replace them in the near future'. (31)

Reflecting a similar view, Premier Khrushchev told the Twenty-Second Party Congress: 'In equipping the armed forces with missiles and an atomic submarine fleet, we are not leaving the air force out of our reckoning; we are continuing to develop and improve it'. (32) Marshal Malinovskii, writing in 1963, advised:

(30) Sokolovskii, op. cit., p.346.
(31) Ibid., US Editor's Note, p.352.
(32) Ibid.
Important changes have taken place in recent years in the air forces ... the bomber has been replaced by missile-carrying aircraft which are capable of carrying out - with great accuracy - long-range nuclear strikes against the enemy, without entering the zone where they are vulnerable to his air defence. (33)

Despite such statements, however, the second Sokolovskii edition modified the optimism of the first over the contribution of air-to-surface missiles to bomber effectiveness: 'The task of destroying and annihilating targets deep in the enemy's territory will be more reliably accomplished by the Strategic Missile Forces'. (34) The manned bomber was judged inferior to ICBMs as: 'Its speed is too low compared to ballistic missiles'. (35) Increased emphasis was also placed on the problem of aircraft reaching their targets against 'modern means of detection'. (36) However, the second Sokolovskii edition continued to describe strategic aviation as one of


(36) Ibid.
the main strategic delivery systems and increasingly stressed the bomber's capacity for 'independent strikes against enemy targets especially on the seas and oceans'. (37)

At the outset of the Second World War, the Soviet Union was compelled to conduct a basically defensive campaign against the Germans. While this strategy was still thought to offer valuable lessons in the first years after the war, the revolution in post-war weapons technology persuaded the Russians that anything other than an offensive posture at the very beginning of a future war would condemn the USSR to heavy losses and probable defeat. (38) Having rejected any doctrine centering around strategic defence, preparation for effective defence against enemy attack nevertheless remained a high priority. (39)


Air Defence

As the armed service chiefly responsible for the defence of Soviet airspace, the air defence forces or National PVO was assigned great importance. In the words of the Sokolovskii authors: 'If missile troops in a future war will play the main role in dealing nuclear blows to targets all over the enemy's territory, the National PVO will play the principal role in protecting our territory from such blows and repelling enemy nuclear assaults'. (40)

The Sokolovskii writers assured their readers: 'Modern anti-aircraft weapons - anti-aircraft missiles, fighters and electronic equipment will ensure the complete frustration of enemy air and air-breathing missile strikes and the destruction of the main body of aircraft and air-breathing missiles on the approaches to the protected regions and targets', (41) but called for a wide-ranging improvement in Soviet anti-aircraft capabilities, including anti-aircraft and air-to-air missiles of longer range, fighter aircraft with increased speed, altitude and range and improved missiles and radar. (42) There was also

(40) Sokolovskii, op. cit., p.345.
(41) Ibid., p.418
(42) Ibid., p.345.
said to be a need for 'highly developed' electronic countermeasures, 'the improvement of automated systems of tracking, target designation and control of anti-aircraft missiles, fighters and radar', extensive automation of air defence command and control and improved PVO organisation. (43)

Ballistic Missile Defence

As Soviet doctrine regarded the inter-continental ballistic missile as the decisive instrument of modern warfare, the problem of ballistic missile defence was considered one of the critical challenges facing the armed forces. The Sokolovskii authors explained: 'The rapid development of nuclear-armed missiles and their adoption as the basic means for delivering nuclear blows to targets deep within the country, have sharply posed the problem, for all states, of creating an effective anti-missile defence capable of destroying enemy ballistic missiles in the air'.

The statements of the Soviet leadership and the professional military literature expressed varying degrees of confidence in the state of the USSR's ABM capability during this period. Taking a relatively optimistic view, Premier Khrushchev said, in September of 1961:

I can only tell you at the same time we told our scientists and engineers to develop inter-continental rockets, we told another group to work out means to combat such rockets. We expressed our great satisfaction with the work of the experts who produced the ICBMs. At the same time, we remain very satisfied with the work of those who produced the means for combating such rockets. (45)

(44) Sokolovskii, op. cit., p.345.
In July of the following year, the Premier claimed that Soviet ABMs could 'hit a fly in outer space'.(46) In a similar vain, Marshal Malinovskii assured the Twenty-Second Party Congress: 'The problem of destroying missiles in flight has been successfully solved'.(47) In October of 1962, he explained: 'We have successfully solved the problem of destroying enemy missiles in flight. Our scientists have developed and our engineers, technicians and workers have built and prepared complexes of numerous means for the defence of our country against enemy missile attacks'.(48) Major General I. Baryshev, an artillery officer, claimed in 1963: 'These long-range air defence missiles are capable of destroying any means of air-space attack'.(49) The second edition of the Sokolovskii study presented a rather more confident view of Soviet ballistic missile defence than the first, dropping references to the 'invulnerability' of ICBMs and the need to perfect the USSR's capabilities in this field.(50) Although neither Sokolovskii edition claimed a fully operational and effective anti-missile system, the revised volume explained:

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(47) Ibid.

(48) Ibid.


(50) Ibid., p.191.
The great effectiveness of modern PVO resources permits a successful solution to the difficult and important task—the complete destruction of all attacking enemy planes and missiles, preventing them from reaching targets marked for destruction. The crux of the matter lies in making skilled use of the great potential of modern means of anti-aircraft and anti-missile defence. (51)

However, moderating the first edition's assertion:

'... there is a realistic possibility of creating an insurmountable anti-missile defence', (52) the second edition stated only: 'there is a realistic possibility of parrying the blows of enemy rockets'. (53)

(52) Sokolovskii, op. cit., US Ed. Intro., p.49.
Civil Defence

As well as the need for strong active defences against enemy aircraft and ICBMs, Soviet writings also discussed the need for passive defences. Despite some evidence of doubt over the effectiveness of bomb shelters in a nuclear war, the Soviet leadership generally spoke in strong support of an extensive civil defence effort. Colonel General O. Tolstikov made his own position clear explaining that civil defence was 'one of the most important defence activities of the state'; it was 'an inseparable part of the defensive strength of our Motherland'.


Superiority

Declaratory doctrine in the early 1960s made clear that peace-time security, as well as wartime victory, demanded that the USSR remain militarily superior to all potential enemies. Although Marshal A.A. Gretchko claimed in 1963 that the Soviet Union was not 'in the least interested in an armaments race', but only sought to deploy forces 'at all the levels necessary to ensure peace', the need for superiority was repeatedly stated. (57) However, beyond the simple repetition of this requirement, the nature of the strategic advantage required - whether qualitative or quantitative - was never fully clarified. (58) Within the 'modernist'-'traditionalist' context, 'modernists' generally considered qualitative improvements in weaponry as the key factor, whereas 'traditionalists' regarded even the most sophisticated systems as of great significance only when deployed in large numbers. (59)

Soviet Military Strategy did not provide a decisive answer to the superiority question. The Sokolovskii study contained references which appeared to argue that quantity and quality were equally significant, explaining: 'One of the basic problems

(58) Ibid., p.79.
(59) Ibid., pp.83-84.
is to ensure qualitative and quantitative superiority in the military-technical sphere over the probable aggressor'. (60)

At other points the importance of the qualitative factor was established as the first priority: '... at the present time, in gaining superiority in nuclear weapons, their quality and the technique for their employment are more important than their number'. (61) Although in its second edition Soviet Military Strategy appeared to include an emphasis on quality, (62) the early 1960s produced a number of statements stressing the need either for a qualitative or a quantitative advantage. (63)

As well as some degree of ambiguity over the nature of superiority, there was also uncertainty as to whether strategic superiority, however defined, represented an unfulfilled ambition or an already accomplished fact. Khrushchev was responsible for assertions of ICBM superiority during the 'missile gap' period. As late as 1963 Defence Minister Malinovskii promised that an attack by American missile forces would bring a Soviet response of 'several times more' missiles than the United States could command. (64) On another occasion, Malinovskii warned that if the arms race was not brought to a halt, then the USSR's 'superiority will be still further increased'. (65)

(60) Wolfe, Soviet Strategy at the Crossroads, op. cit., p.79.
(61) Sokolovskii, op. cit., p.335.
(63) Ibid., pp.84-85.
(64) Ibid., p.85.
(65) Ibid., p.89.
The Sokolovskii study explained that the USSR's nuclear superiority was 'indisputable' as the Soviet Union had developed the first hydrogen weapon and was armed with nuclear warheads far larger than those of the United States, a claim which did not assert quantitative superiority in warheads. (66)

On the other hand, as American concern over the 'missile gap' began to wane, a gradual retreat from claims of strategic superiority can be traced in the remarks of the Soviet leadership. Premier Khrushchev's assurances that war would bring far greater destruction to the United States than to the Soviet Union came to an end in 1960. In 1961 the Russians spoke not of quantitative superiority over the United States in ICBMs, but of an adequate retaliatory capability, 'sufficient' numbers of intercontinental missiles, as well as Russian qualitative superiority as reflected in the development of very high yield thermo-nuclear warheads. Emphasis was also placed upon MRBMs, IRBMs, nuclear submarines and long-range bombers. There was a return to earlier warnings that the USA was no longer invulnerable to nuclear attack and a revival of the 'hostage' Europe concept, as well as a renewed eagerness to accept 'parity' as an accurate characterisation of the east-west strategic balance. (67)


The Sokolovskii study appeared to assert little more than nuclear equality with the United States when it claimed a 'balance' in strategic weapons and superiority in conventional forces, a relationship which was said to have compelled: 'The American strategists to re-evaluate their previous attitude toward general nuclear war'. (68) It also appeared to accept a relationship of 'mutual deterrence' with the United States when, in its first edition, the authors explained:

They (the Americans) understand that when both sides possess very large stockpiles of nuclear weapons and various means of delivering them to targets, primarily strategic means, a general nuclear war holds great risks of complete mutual annihilation. Consequently, the greater the stockpiling of weapons of mass destruction the greater becomes the conviction that it is impossible to use them. Thus, the growth of nuclear-missile power is inversely proportional to the possibility of its use. A nuclear stalemate, to use the western expression, had arisen; on the one hand a tremendous increase in the number of missiles and nuclear weapons, and on the other hand the incredible danger of their use. Under these conditions, according to the evaluation of American and NATO political and military circles, both sides have attained the position of so-called 'mutual deterrence'. (69)

However, despite this seeming acceptance of equality and 'mutual deterrence', the second Sokolovskii edition deleted the

(68) Sokolovskii, op. cit., p.156.
(69) Ibid., pp.156-157.
phrase 'complete mutual annihilation', along with the view that 'the greater the stockpiling of weapons of mass destruction, the greater becomes the conviction that it is impossible to use them. Thus the growth of nuclear missile power is inversely proportional to its use' (70) Qualifying the conviction that a nuclear balance would produce a stable peace, there was discussion of the 'incredible danger' of peace through a balance of terror. (71)

Short War - Long War

The official Soviet position in this period on the length of a nuclear conflict, was never definitely stated, although the greater authority appeared to rest with Premier Khrushchev's 'modernist' view that nuclear-missile technology had so altered the nature of modern warfare as to preclude the likelihood of any prolonged Soviet-American struggle (72). More closely reflecting the short war than the long war view, Soviet Military Strategy explained that with the latest weapons technology it was possible 'within a short time to eliminate either one country or a number of countries from the war, even


(71) Gehlen, op. cit., p.91.

those with relatively large territories, well-developed economies and populations of the order of tens of millions. (73)

The Sokolevskii authors went on to argue:

In modern warfare military strategy has become the strategy of missile and nuclear strikes in depth along with the simultaneous use of all the armed forces in order to achieve complete defeat of the enemy and the destruction of his economic potential and armed forces throughout his entire territory; such war aims are to be accomplished within a short period of time. (74)

The effectiveness of ICBMs and their nuclear payloads was said to be so great as to 'make it possible to achieve decisive results in winning victory in war sometimes even without resort to tactical and field forces and their weapons. (75)

Under the crushing punishment of nuclear attack the aggressor 'may find it necessary to surrender even before its armed forces have suffered decisive defeat'. (76)

However, despite the emphasis on the Khrushchev view that a missile-nuclear clash would probably prove a brief contest, it was frequently stated that the Soviet Union had to be prepared to wage a more lengthy conflict. Colonel General N.A. Lomov, after arguing that modern weaponry made rapid victory possible, nonetheless warned:

It cannot be excluded that under certain conditions a war might take on a protracted character, which will demand of the country and the armed forces a maximum, sustained effort. (77)

(73) Sokolevskii, op. cit., p.93.
(74) Ibid., p.93.
(75) Ibid., p.94.
(76) Ibid., p.105.
Closely related to the length of a nuclear war was the assessment of the importance of the initial period of such a conflict, the value of forces-in-being and the significance of surprise and pre-emptive attacks. On the first of these issues, Soviet Military Strategy held: 'the Soviet armed forces and those of the entire socialist camp will have to employ their main military forces from the very outset of the war, literally during the very first hours and minutes', if the USSR was to rapidly achieve its decisive strategic objectives. (78) This was essential as a result of the destructive power of nuclear weapons. Modern nuclear warfare:

... can fundamentally alter former concepts of how fighting develops during various stages of a war. At the same time, it attests to the extraordinary increase in the importance of the initial period of the war. In the very first minutes of the war, the belligerents may use up their carriers, missiles and aircraft, accumulated in peacetime along with their stockpiles of nuclear weapons in order to destroy and devastate the enemy's most important targets throughout his entire territory and to achieve their main political and military-strategic aims within a brief period of time and at the very outset of the war. Therefore, the initial period of a modern missile war will obviously be the main the decisive period and will predetermine the development and outcome of the entire war. (79)

(78) Sokolovskii, op. cit., p.308.

(79) Ibid.
The official evaluation of forces-in-being, as opposed to forces mobilised during wartime, appeared to argue for the permanent maintenance of sufficient combat-ready strength to support a credible deterrent, as well as to conduct the first stage of a major war should deterrence fail. In addition to a high level of active strength, Soviet doctrine also required a powerful mobilisation base able to provide large forces quickly for the later phases of a future war.\(^{(80)}\)

Despite Khrushchev's sometimes unenthusiastic assessment of the mobilisation concept and the doctrinal emphasis on the power of nuclear weapons, it was thought necessary to prepare for the rapid mobilisation of reserve strength.\(^{(81)}\)

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Surprise and Pre-emption

Certain of Khrushchev's statements in 1960 indicated full confidence in the deterrent effect of the Soviet Union's strategic nuclear forces, as well as the impossibility of a successful surprise attack against the USSR. The Premier explained: 'We are locating our rockets in such a way as to ensure double and triple protection; we can disperse rocket installations and camouflage them well'. (82)

He went on to add a further assurance:

If the possibility is not excluded that some capitalist countries will draw level with us in the field of modern armaments, will they not possibly act treacherously and attack us first, in order to make use of the factor of surprise, with such formidable weapons as rocket atomic weapons and thus have an advantage for gaining victory? No. Modern means of waging war do not give any country such advantages. (83)

Nevertheless, despite such confident assertions, Soviet military literature in this period frequently considered the problem of surprise attack. In 1961 Defence Minister Malinovskii advised that a 'realistic evaluation of the situation' must recognise that the 'imperialists are preparing a surprise nuclear attack against the USSR'. (84)

(82) Gehlen, op. cit., pp.73-74.
(83) Ibid., p.74.
Sokolevskii's volume anticipated that a Soviet-American conflict would begin with an American surprise attack, warning:

... the Soviet state and all the socialist countries and their armed forces must be prepared above all for a world-wide war against a militarily and economically powerful imperialist coalition. Surprise attack is the most probable way for the imperialist bloc to initiate such a war against the socialist states and is of the gravest danger. (85)

The suggestion that the Soviet Union would ever consider launching a preventive or pre-emptive assault against the United States was firmly denied by the authors of the Red Star article 'Against Slanders and Falsifications: On the Publication of the Book "Military Strategy" in the United States'. (86) The article argued that, contrary to the claims made by American commentators, any charge that the Sokolevskii book or the views of Defence Minister Malinovskii proposed either a preventive or pre-emptive war was 'nothing but a crude lie'. (87)

Referring to Malinovskii's speech before the Twenty-Second Party Congress, the authors explained:

(85) Sokolevskii, op. cit., p.288.


(87) Ibid., p.88.
It is well known that neither this document nor the statements made by any Soviet leaders have ever raised the question of pre-emption as a mission of the Soviet Armed Forces. For the very idea of dealing a pre-emptive blow itself is refuted decisively by the peace loving foreign policy of the Soviet Government. (88)

Despite these assurances, several public statements by Soviet leaders at this time were regarded in the west as supporting a pre-emptive option. In one such statement, Marshal Malinovskii told the Twenty-Second Party Congress in October 1961: '... the initial period of a future war, as well as the means of breaking up the aggressive plans of the enemy by dealing him a crushing blow in time will be of decisive significance for the outcome of the entire war'. (89)

In May of 1962, the Defence Minister identified a surprise attack as the 'main danger' to the Soviet Union but promised that: 'views on methods of breaking up a surprise attack are clearly and fully developed among us'. In July of that year, Premier Khrushchev warned:


We shall not allow anyone to take us by surprise. We have a reliable guard which will be able to seize in time the hand of those who would try to destroy our cities and villages. Such a reliable guard is the Armed Forces of the Soviet Union and of all the socialise countries. (90)

In 1963, Colonel General Lomov wrote that the USSR 'must be ready to react under conditions of a surprise enemy attack' and went on to advise that the Soviet forces 'must also skillfully apply surprise'. (91)

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Limited Nuclear War

The official Soviet scenario for a great power war during the early 1960s, described a struggle which would inevitably assume global proportions. A clash among the nuclear powers would range over the entire territory of every combatant, with each side fighting to achieve conclusive results. The elimination of the enemy's nuclear strike capability was the most important strategic objective, but victory also required the destruction of other military installations, along with economic and political targets. In short, the full spectrum of military and civilian centres were to be attacked. Soviet doctrine also held that any large-scale conflict would inevitably become a thermonuclear contest in which ICBMs would play the primary role. (92)

Such a conception of modern warfare placed Soviet strategy at odds with American thinking on the feasibility of waging something less than general nuclear war. The Russians rejected the idea of a 'controlled response' or any attempt to establish 'rules' for the conduct of a limited nuclear conflict. US discussion of limited strategic warfare was thought to represent an effort to minimise the risk of nuclear strikes on American territory, as well as to increase defence industry profits and crush the liberation struggles of oppressed peoples. (93)

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(93) Ibid., p. 137.
The Sokolovskii study assessed American discussion of a 'graduated strategy' as an attempt to make the use of nuclear weapons possible for US forces while denying them to their socialist victims. America's limited war theories were also said to be inspired by an inability to strike the USSR's strategic centres, as well as a desire to conceal preparations for full-scale nuclear war.\(^{(94)}\) Any attempt to limit nuclear targeting, establishing 'rules' for strategic conflict through a strategy of 'controlled response' or counterforce exchanges, as proposed by Robert McNamara in June of 1962, was firmly rejected.\(^{(95)}\) Commenting on 'controlled response', Premier Khrushchev described it as 'a monstrous (proposal) permeated from beginning to end with hatred of people and thereby the death of millions and millions of people'.\(^{(96)}\) The McNamara proposal was merely a device to shield mainland America from Soviet nuclear retaliation, diverting the Soviet counter strike to US military bases abroad.\(^{(97)}\) Khrushchev further assessed the US counterforce doctrine as an attempt to deceive the American people by suggesting that military bases could be attacked without serious damage to urban areas. This was

\(^{(94)}\) Sokolovskii, \textit{op. cit.}, p.383.

\(^{(95)}\) On McNamara's 'controlled response' doctrine, see below, Section III Chapter 1

\(^{(96)}\) Horelick and Rush, \textit{op. cit.}, p.91.

\(^{(97)}\) \textit{Ibid.}
clearly false as these installations were often located in or near population centres in the United States. He warned:

A nuclear-rocket war completely erases boundaries between front and rear. Moreover, it will be first of all the civilian population that will fall victim to weapons of mass annihilation. (98)

Examining the American counterculture doctrine, the second Sokolovskii edition explained that it was based essentially upon the launch of a surprise attack as part of a preventive war strategy. Writing in the Red Star article, 'Against Slander and Falsifications: On the Publication of the Book "Military Strategy" in the United States', several of the Sokolovskii authors asserted that the Soviet Union firmly opposed nuclear war of any kind, 'controlled' or 'uncontrolled', as well as any effort to make nuclear war 'acceptable' as in the theories of Herman Kahn. (99) Specifically reacting to Robert McNamara's 'rules' for nuclear war, the Red Star article estimated:

... there are hardly any people simple enough to believe in the possibility of delivering nuclear strikes on 'military targets' without subjecting cities and the civil population to destruction. Such statements should be regarded solely as an effort to deceive public opinion, to show, as it were, that there is little difference between ordinary war and a nuclear war and that, therefore, a nuclear war can easily be controlled. (100)

(98) Horlick and Rush, op. cit., p.91.
(99) Zavyalov, et.al., op. cit., p.92.
Nevertheless, it was frequently acknowledged that limited wars might well occur, running their course within a limited political and technological sphere. In 'Against Slanders and Falsifications: On the Publication of the Book "Military Strategy" in the United States', the authors identified the key question in the limitation of conflicts to be whether 'the nuclear powers are dragged into this conflict'. (101)

If they were not, limited warfare was possible.

However, any clash among the nuclear powers - at whatever level of conflict it might begin - would escalate to a major nuclear war. Wars between sharply opposed social systems were said to be always of a clearly decisive character. Each side would struggle for conclusive results with its most effective weaponry, refusing to accept defeat before exercising the full range of its military options. Indeed, Soviet doctrine recognised no difference between tactical and strategic nuclear weapons in terms of escalating any great power conflict. (102)

(101) Zavyalov, et al., op. cit., p.90.

Victory

Declaratory strategic doctrine in the early 1960s made clear that the nation's armed forces were not intended to achieve a military stalemate in the event of a nuclear war. The USSR was instead arming to assure a Soviet victory. Marshal Sokolovskii's study explained that the political, economic and military resources available to the USSR fully prepared the Soviet Union to defeat any aggressor.\(^{(103)}\)

A future war would prove a decisive clash between opposing political systems, with the overall balance favouring the socialist camp and guaranteeing its victory.\(^{(104)}\) Indeed, the tremendous destructive power of modern strategic systems was said to offer the possibility of defeating the enemy even before his armed forces had been entirely destroyed.\(^{(105)}\)

However, Soviet Military Strategy cautioned that victory would not be won automatically, but would come as the result of thorough peace time preparations.\(^{(106)}\) Further, certain of Khrushchev's statements on the disastrous consequences of a nuclear war implied something less than full confidence in the certainty of a clear Soviet victory.\(^{(107)}\)

\(^{(103)}\) Sokolovskii, *op. cit.*, p.288.
\(^{(104)}\) Ibid., p.313.
\(^{(105)}\) Ibid., p.105.
\(^{(106)}\) Ibid., p.313.
Although Soviet doctrine in the first half of the 1960s asserted that the development of nuclear weapons and long-range missiles would make any future conflict 'a war of a wholly new nature', (108) it certainly did not condemn non-nuclear forces to extinction. In the words of the Sokolovskii authors: 'Regardless of the future wartime role of such instruments of strategy as the Strategic Missile Forces, victory over the aggressor can be achieved only by the combined exertions of all the war-waging forces, namely - the Ground Forces, the National PVO and the active participation of the people'. Speaking of non-nuclear weaponry, the Sokolovskii study advised: 'The development and improvement of conventional weapons apparently will continue, together with the development of new types of weapons; the former have not yet lost their combat utility and will be extensively employed in local wars and world wars, either independently or in conjunction with new types of weapons'. (109)

(108) Sokolovskii, op. cit., p.302.
(109) Ibid., p.338.
Soviet strategic doctrine repeatedly warned of the rapid escalation of any great power conflict to a full-scale thermonuclear struggle. However, while the Sokolovskii study did not include a local war doctrine, it explained:

While preparing for a decisive struggle with the aggressor in a world war, the armed forces of the socialist countries must also be ready for small-scale local wars which the imperialists might initiate. The experience of such wars, which have broken out repeatedly in the postwar period, is that they are waged with different instruments and by other methods than world wars. Soviet military strategy, therefore, must study the methods of waging such wars, too, in order to prevent their expansion into a world war and in order to achieve a rapid victory over the enemy. (110)

The Sokolovskii authors warned that the imperialists, fearing that a nuclear attack against the Soviet Union 'might mean complete disaster for capitalism', may 'insist on the conduct of local wars'. The methods of conducting local wars, as well as nuclear conflicts, had, therefore, to be studied and 'taken into account, in theory and practice, when training our Armed Forces'. (111)

Soviet doctrine certainly allowed for 'wars of national liberation' fought by oppressed colonial peoples, conflicts among

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(110) Sokolovskii, op. cit., p.288.

(111) Ibid., p.356.
capitalist states and civil wars.\footnote{Sokolovskii, op. cit., pp.280-283.} The Sokolovskii volume also appeared to accept the possibility of a conventional war in Europe involving only non-nuclear European powers:

\begin{quote}
It is not impossible that West Germany, either independently or with other NATO members, might initiate a local war in Europe by a surprise attack against East Germany. At the beginning of such a war, nuclear weapons might not even be used. In this case, military operations might begin, for example, with massive blows by tactical aircraft and missile troops using conventional munitions against all of East Germany or another nearby socialist country and with the invasion of large tank formations.\footnote{Sokolovskii, op. cit., pp.280-283.}\end{quote}

Any suggestion that a war in Europe, including the United States and the Soviet Union, might be limited to conventional forces was rejected throughout most of the Khrushchev period. However, in Mr. Khrushchev's final years, statements appeared implying the possibility of a great power clash in Europe which might not immediately burst into a full-scale nuclear clash.\footnote{Ibid., p.396.}

Ground Forces

While the ground forces had publically lost their dominant position in Soviet doctrine by 1968, they retained a major role. Describing the still critical responsibilities of the Army, the Sokolovskii study observed:

In a future war, the socialist coalition will aim at conclusive political and military goals. To attain these goals, it will not be enough just to destroy the enemy's means of nuclear attack, to defeat his main forces by missile blows and to disorganise his rear. For final victory in what would clearly be a class war, it will be absolutely necessary to smash the enemy's armed forces completely, deprive him of strategic areas of deployment, liquidate his military bases and occupy his strategically important areas. In addition, the enemy's air and naval forces must not be permitted to make landings, and his ground forces must be prevented from invading the territories of the socialist countries. These territories must be held, and the internal security of the socialist states must be protected, against enemy subversion. All these and a number of other problems can be solved only by the Ground Forces. (115)

Soviet Military Strategy described modern ground theatre operations as being of a genuinely strategic character, covering a 'broad scope'. (116) In a war in which - 'The main aim of the military operations in ground theatres is the decisive defeat of

(115) Sokolovskii, op. cit., p. 302.

(116) Ibid., p. 410.
enemy formations, the capture of vitally important regions and targets, the occupation of enemy territory, and also the prevention of an invasion of the socialist countries by ground troops, the 'basic weapons in ground theatres will be nuclear weapons, used primarily with operational and tactical missiles and front-line air forces (bombers, fighter bombers plus fighters)'. (117) 

The Sokolovskii authors observed:

To succeed in combat, it is absolutely essential for ground troops to surpass the enemy in fire power. Consequently, they must have the nuclear and conventional weapons to destroy any target, whatever the depth of the operational zone, regardless of weather, visibility or enemy countermeasures. (118)

The need for conventional fire power included a role for rocket artillery and anti-tank missiles. (119) Although the revised Sokolovskii edition seemed to imply a reduced emphasis on tactical missiles and nuclear warheads, tactical nuclear power was still assigned a highly significant role. (120)

Tactical nuclear strikes added to those of long-range delivery systems would demonstrate, in the words of the first Sokolovskii version, that 'nuclear power will have the decisive role on the

(117) Sokolovskii, op. cit., p.410.
(118) Ibid., p.391.
(119) Ibid., p.342.
battlefield’, providing gains which ‘other weapons systems will exploit’. Such systems would include tank forces, motorised infantry and airborne troops.

While the Sokolovskii volume at various points appeared to imply that very large combat ready ground forces were uneconomic, or perhaps unnecessary in a time when an enemy could be rapidly destroyed by ICBMs, the authors generally argued for ground armies of great size. If the Army was to perform all of its varied and essential missions effectively defeating the enemy’s armed forces, capturing military bases, occupying strategic points, resisting ground, air and naval attacks on the USSR, providing for internal security and civil defence - then the ground forces had to ‘remain the largest of the various branches of the armed forces’, commanding millions of troops. Rejecting the suggestion


(123) Ibid., p.341.
that technology had eliminated the need for forces of these traditionally large proportions, the first Sokolovskii edition argued:

The appearance of missiles and nuclear weapons and the development of aircraft and other instruments of armed combat ... again revised the notorious theory of the possibility of waging war with small but technically well-equipped armies. The advocates of such armies fail to consider that the new equipment, far from reducing the requirements of the armed forces for personnel, increases them. For this reason, massive armies of millions of men will be needed to wage a future war. (124)

The second Sokolovskii edition also explained:

The need for a massive army derives from the fact that enormous simultaneous losses from nuclear strikes require great numbers of troops, significant reserves for replenishing the troops and increasing their fighting capabilities. Moreover, the increased scope of the

(124) Sokolovskii, op. cit., p. 338.
war and the creation, by nuclear strikes of enormous zones of destruction and radio-active debris, require a large number of troops for guarding and defending state borders, rear objectives and communications, and for the elimination of the after-effects of the nuclear strikes. Hence, there cannot be any doubt that future war will involve massive armies of millions of men. (125)

Tactical Aviation

Along with the continued importance of the ground forces, tactical aviation also retained a useful role:

... tactical fighters and fighter bombers will obviously still be able to support ground troops on the battlefield effectively and to co-operate with anti-aircraft missile troops to protect troops formations and important targets from enemy air strikes against the rear areas of the front. But to do this, their speed and altitude must surpass those of enemy aircraft. Front line aircraft can be particularly effective in destroying enemy nuclear weapons, especially missiles, on the battlefield. By 'free hunting', (reconnaissance strikes) and even using conventional weapons, they can disorganise the operation of enemy missile troops and if not spoil, at least seriously reduce the effectiveness of their nuclear strikes. (126)

Although the Khrushchev period was marked by the judgement that the significance of tactical air power had been reduced by tactical missiles, (127) in 1963 the ground forces chief, Colonel General S.M. Shtemenko declared that there was 'no substitute' for tactical aviation, 'especially when independent searching out of targets is required'. (128) The second Sokolovskii edition also argued:

(126) Sokolovskii, op. cit., p.347.


There are many specific tasks, such as the destruction of mobile targets, which can be more effectively carried out by bombers or fighter-bombers than missiles. The future improvement of aircraft-missile technology may significantly increase the operational effectiveness of the bomber on the battlefield. (129)

In 1964, Marshal Rotmistrov wrote:

Despite the employment of missiles, aviation will play an important role, especially in operations of tank forces and other strike groups separated from the remaining forces. In a war of manoeuvre, aviation will become not only an irreplaceable means of reconnaissance, but also a reliable and adequately effective means for suppression of mobile targets through use of both nuclear and conventional bombs. (130)


The Sokolovskii volume, although devoting relatively little of its discussion to sea power, recognised that in a future war Soviet fleets would operate over wide areas against powerful enemy forces. (131) The Naval mission was still denied decisive significance; (132) but with the introduction of nuclear power, missiles and other developments, the Navy would be charged with independent strategic operations. (133) Soviet Military Strategy described the destruction of enemy fleets as among the first priorities of the post-war Navy, (134) preventing the delivery of nuclear strikes on Soviet territory. (135)

Figuring importantly in this mission was the threat of US aircraft carriers against both coastal and inland targets. The Sokolovskii study warned that it was essential to eliminate these ships before they reached their aircraft launch stations, as well as to destroy their bases, supply and support vessels. Soviet Military Strategy found carriers particularly vulnerable

(131) Sokolovskii, op. cit., p.123
(132) Ibid., p.420.
(133) Ibid., p.405.
(134) Ibid., p.420.
(135) Onacewicz, 'Soviet Military Strategy in Brief', op. cit., p.27.
to missile and torpedo attacks when enroute to their launch positions, awaiting the return of their aircraft and during refuelling operations. (136) It was argued that the carrier threat, as well as that of surface vessels generally, could be effectively met by missile firing submarines and naval aircraft operating outside the range of carrier defences. Missiles based on coastal sites were also said to be of value in solving the carrier problem. (137)

The destruction of the enemy's missile firing submarines marked another vital naval mission. A co-ordinated system of reconnaissance was said to offer the means of detecting Polaris. Once discovered, it was to be destroyed by the combined efforts of missile and torpedo firing submarines, naval aircraft, hydrofoils, destroyers, patrol boats and helicopters. (138) However, departing from Soviet Military Strategy's optimistic tone, Admiral V.A. Alafuzov warned of the difficult problems of detecting and destroying nuclear submarines. Questioning the claims of the Sokolovskii study on Polaris vulnerability to missile launching submarines and surface ships, Admiral Alafuzov warned: 'Such an unproven conclusion seems too bold and unconvincing. Apparently the unquestionable fact that nuclear submarines will operate only

(136) Sokolovskii, op. cit., p.421.

(137) Onacewicz, 'Soviet Military Strategy in Brief' op. cit., p.28.

(138) Sokolovskii, op. cit., p.422.
while submerged was not taken into consideration'. (139)

As well as the destruction of America's Polaris fleet, the Soviet Navy was also charged with the delivery of its own submarine-missile strikes on enemy coastal targets. (140)

While the naval forces were to operate independently in pursuit of their own strategic objectives, they were also to facilitate ground forces operations by frustrating the enemy's attempts at amphibious landings. The Sokolovskii study, in its first edition, explained: 'In conjunction with the Ground Forces, the Navy can annihilate enemy naval landing forces at leading points, at sea and upon their debarkation'. (141)

The revised edition offered the view that: 'The enemy may attempt to launch large amphibious attacks, and in this regard preparedness to defeat amphibious operations remains an important demand upon our fleet, Ground Forces and other branches of the Armed Forces'. (142)

As well as preventing enemy landings, the Soviet fleet was itself to command an amphibious capability for 'executing naval landing operations on enemy shores'. (143) Admiral Alafuzov,

(140) Sokolovskii, op. cit., p.348.
(141) Ibid., p.423.
(143) Sokolovskii, op. cit., p.423.
unhappy with the first Sokolovskii edition's treatment of amphibious operations, criticised the study for failing 'to remember that if it is a question of a "maritime opponent", his final destruction and the taking of his territory cannot be accomplished without conducting amphibious operations'. (144) The Admiral went on to warn that without naval power, 'the Ground Forces would be in a terrible quandary, to say the least, in attempting invasion of enemy territory across the sea'. (145) The revised Sokolovskii volume seemed to attain somewhat greater emphasis to amphibious attack. (146)

Also in support of the Army, the Navy was to disrupt the enemy's seaborne communications and transportation, severing the trans-Atlantic line of supply and reinforcement, while defending Soviet transportation and communications. (147) Finally, the Navy was to engage in extensive mine-laying and attend to the control of: 'straits and major water obstacles in the path of the Ground Forces. The Navy will combat the enemy's naval forces, especially his aircraft and missiles, and thus protect Ground Forces formations against strikes from the sea'. (148)

(145) Ibid.
(146) Ibid., pp.187-188.
(148) Ibid. p.423.
The wartime missions of the Soviet Navy were to be carried out by a force of submarines, naval air power and surface ships. However, Khrushchev continued to stress the dominant role of a large submarine force, armed with missiles and torpedoes. Submarines were described in the Sokolovskii study as the 'chief weapons' of the Navy in a missile war and nuclear submarines as the 'core' of the underwater fleet. Naval warfare would generally centre around subsurface operations. Although missile firing submarines were regarded as an important addition to Soviet naval strength, the Sokolovskii volume described the strategic nuclear delivery mission as the responsibility of land based ICBMs and long-range aircraft.


(150) Sokolovskii, op. cit., p.304.

(151) Ibid., p.422.

Great importance was also attached to the role of land-based naval air power. The Sokolovskii study expected aircraft armed with missiles to assault enemy carriers before they had reached their launch positions. They were also to attack enemy transport and perform in reconnaissance and anti-submarine roles. (153) The second Sokolovskii edition was marked by the assignment of Long-Range Aviation to naval operations against enemy ships. (154)

The role of surface vessels was said to have been greatly reduced by modern weapons technology. Soviet Military Strategy predicted the disappearange of large surface formations, along with surface vessels generally. (155) They were now too vulnerable to nuclear-missile strikes. (156) The Sokolovskii study did, however, concede a submarine support function to surface ships as well as the defence of communications, coastal installations and other 'secondary missions'. (157) The first Sokolovskii edition explained that the Navy required units to assist the ground forces in the destruction of enemy amphibious forces, as well as to conduct amphibious operations of its own and to control sea areas important to Army operations. (158) Despite the rather dismal

(153) Sokolovskii, op. cit., p.404.
(154) Thornton, op. cit., pp.42-44.
(156) Ibid., p.421.
(157) Ibid., p.348.
(158) Ibid., p.423.
outlook for the surface Navy foreseen by Soviet commentators, Admiral V.A. Alafuzov presented a more optimistic view of the role of surface warships:

The mobility of the navy makes it less vulnerable to a massive rocket strike since the aggressor making a strike and preparing himself for a retaliatory strike, would disperse his ships beforehand. It is difficult to locate a ship in the wide spaces of the oceans, moving at a speed of twenty to thirty knots, and to hit it, even with a homing-type rocket, unless the rocket carries a super-powerful nuclear charge which could create a destruction area large enough to compensate for all possible mistakes in calculations. (159)

Commenting on the Sokolovskii view that large surface ships and formations would soon largely disappear, Alafuzov granted the obsolescence of battleships and heavy cruisers, but rejected any blanket condemnation of surface vessels. Destroyers, anti-submarine ships, trawlers and torpedo boats would continue to be of great value. The Admiral judged it: 'entirely wrong to speak in general terms about the disappearance of surface ships, without them it is impossible, as yet, either to secure communication lanes or to carry out

(159) Alafuzov, op. cit., p.51.
By the early 1960s, Mr. Khrushchev had spoken on several occasions in support of an increased investment in the civilian economy and a reduction in the size of the armed forces. This reduction was to be made possible by the introduction of modern technology into the military services. The Khrushchev period as a whole did, in fact, mark a decline in the percentage of the total gross national product devoted to defence. However, in 1961 and 1962 the budgetary allotment of defence increased, representing a continuation of a trend begun after 1956. (161)

By 1963, in an emerging atmosphere of detente, marked by such events as the signature of the Test Ban Treaty, and in the face of internal economic difficulties, including a decline in the industrial growth rate, Khrushchev again publically discussed reductions in defence spending. Probably as a consequence of the domestic opposition to Khrushchev's plans for a

reapportionment of resources, the national budget for 1964 brought only a modest reduction in defence expenditures, dissatisfying both the advocates and the critics of the Premier's policy. Nevertheless, Khrushchev continued to speak in support of diminished defence expenditures until his retirement.


By 1960 Khrushchev had presided over two reductions in the overall level of military manpower, reportedly cutting the total number of servicemen from 5.7 to 3.6 million. The Premier's historic speech of that year, proclaiming a major shift in Soviet doctrine to a missile-nuclear emphasis, announced that the armed forces would be further reduced to 2.4 million men in about two years. While the earlier troop cuts had been accomplished without serious protest from the military, the 1960 proposal stimulated important armed forces objections. Armed forces opposition, increasing international tension over Berlin in 1961, and the build-up in American conventional strength, resulted in the suspension of Khrushchev's third manpower reduction programme after the release of only about half the number of men originally destined for return to civilian life. In 1963, Khrushchev announced

a further troop cut without publishing any figures. (165) The effect of Khrushchev's manpower policy from 1955 to 1964 was to reduce the size of the Soviet armed forces from 5.7 million to about 3 million men. However, this substantial overall reduction had little affect upon the USSR's forces in Eastern Europe. (166)


ICBMs

Soviet declaratory doctrine in the early 1960s never failed to claim at least strategic nuclear parity with the United States. However, an examination of Soviet deployments during these years reveals a nuclear capability markedly at odds with declaratory doctrine. The history of Soviet deployments records only a slowly expanding operational capability which failed to produce a large deployment of the USSR's first-generation ICBMs.

From the late 1950s to 1961, the USSR commanded only a very small force of its first-generation SS-6 SAP-Weed intercontinental missiles, a three-stage liquid fuelled weapon. In 1961 or 1962 the second-generation SS-7 SADDLER began to enter service. By 1962 the Russians had deployed a total ICBM force of some seventy-five missiles, and claimed to have developed tremendous nuclear warheads of thirty, fifty and one hundred megatons after unilaterally resuming nuclear testing the year before.


(168) Bloomfield, et.al., op. cit., p.97; Garthoff, Soviet Military Policy, op. cit., p.118.
deployment appeared to accelerate, perhaps the product of an increased R & D effort between 1954-1958 and the expansion of defence spending authorised in the Seven Year Plan for 1959-1965.\(^\text{169}\) By the end of the Khrushchev period in 1964, the intensified deployment programme had armed the USSR with some 200 ICBMs. It was estimated that approximately one-third of this total was composed of second-generation missiles powered by a storable liquid fuel. The hardening of ICBMs in underground silos was also begun in the later years of the Khrushchev period.\(^\text{170}\) Development was proceeding on other ICBM types, most of which eventually would be deployed in large numbers under the Brezhnev-Kosygin leadership. These included the SS-8 SABIN.

\(^\text{169}\) Holst, \textit{op. cit.}, p.58.

SS-9 SCARP and the SS-11. (171)

While Mr. Khrushchev apparently never approved a massive ICBM deployment, Soviet defence policy in the early 1960s continued to reflect the already established emphasis on missiles of medium and intermediate ranges. During the second half of the 1950s, the SS-3 Shyster and the SS-4 Sandal systems were deployed, weapons with ranges of from 700-1,100 miles. By 1961 the SS-5 Skean, with a range of 2,000 miles, was entering service. Between 1961 and 1963, the Soviet Union deployed more than 500 IRBMs, reaching a total force of about 700-750 launchers in 1964. The USSR had also developed a mobile basing capability involving the transportation of MRBMs aboard lorries. \(^{(172)}\) Soviet M/IRBMs were largely positioned along the USSR's western border, with a small number of M/IRBMs in the Soviet Union's southern and far eastern regions. In 1962, Khrushchev deeply alarmed the United States by beginning the deployment of intermediate range missiles in Cuba, triggering the 'Cuban missile crisis'. While exact

figures are not available, it would seem that the Russians planned to construct about twelve IREBM launching pads and twenty-four IREBM launchers, providing for a total deployment of some sixty-four missiles. Their Cuban commitment also included some forty to forty-eight Ilyusion-28 medium-range bombers. (173)

Submarine Launched Missiles

During the early 1960s, the Soviet force of missile firing submarines, diesel and nuclear powered, continued to expand, equipped with ballistic and cruise missiles.

Ballistic missile firing submarines of the diesel type included the G-class, armed from 1961 with the 300 mile range surface launched SS-N-4 SARK missile. In 1962 the G-class began conversion to the G-11 class, equipped with the SS-N-5 SERB missile system which was first test-fired from a submarine in 1962 and became fully operational in about 1964 with a 700 miles range. The SS-N-5 was the first Soviet SLBM capable of subsurface launch. The H-class began to receive the SS-N-5 weapon with a range of 650 n.m. 


Development of the Y-class submarine also proceeded, becoming operational several years after Mr. Khrushchev's retirement as the rough equivalent of the American Polaris. (177)

Diesel powered cruise launchers of the Longbin type were added to the fleet until 1963, mounting the SS-N-3. Only six ships of the cancelled Longbin programme were ever completed. The J-class diesel submarine entered service in 1962, also armed with the SS-N-3. The J-class was superseded by the nuclear powered cruise launchers of the E-I and E-II classes, both fitted with SS-N-3. (178) By 1964 the Soviet Navy commanded about forty nuclear and diesel powered missile firing submarines and a total of some 120 SLBMs, as well as a similar number of cruise weapons. In its mix of diesel and nuclear propulsion systems and cruise and ballistic weapons, the Soviet missile firing submarine force differed markedly from the American SLBM fleet. Further, the quality and capabilities of both its submarine launchers and ballistic weapons were significantly inferior to those of the US Navy. (179)

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surface and was capable of a range of no more than 350 n.m. It was not until 1964 that a ballistic missile firing nuclear submarine began a sustained patrol. Finally, the Navy's first-generation submarines were inadequately prepared to meet improvements in American anti-submarine techniques.

The serious limitations of the USSR's missile submarines probably explains Sokolovskii's assignment of the strategic nuclear mission to land based missiles and long-range aircraft alone. The Navy's subsurface force was clearly incapable of launching strategic nuclear strikes as "Soviet Military Strategy was in preparation (1961-1962). However, anticipating the delivery of much improved systems in the near future, in 1963 the missile-submarine was admitted to a strategic nuclear delivery role along with the Strategic Missile Forces and Long-Range Aviation. (182)


(181) Ibid., pp.162-163.

Strategic Aviation

The early 1960s brought no major change in the strength or structure of the Soviet bomber force. It continued to reflect a strong emphasis on aircraft of medium range. The Long-Range Air Force commanded a total of approximately 200 heavy bombers of the jet powered M-4 Bison and turboprop Tu-95 Bear types. The Bison was able to launch a winged air-to-surface missile, while the Bear was equipped with two short-range air-to-surface missiles or a single winged missile – the Kangaroo.

There were also 1,000 Tu-16 Badger jet powered medium bombers in service. The Badgers with an air-to-ground missile, the Kipper were not unlike the American Hound Dog weapon. The supersonic Tu-22 Blinder medium jet bomber fitted with a long-range air-to-ground missile, first appeared in 1961. The supersonic Delta-wing Bounder strategic bomber was under development but did not enter production. (183)

Strategic Defence

Air Defence

Soviet declaratory doctrine clearly required the deployment of powerful defensive systems and frequently claimed a fully adequate capability in this area. However, the Khrushchev deployment record fell short of the high mark set in official statements. As concerns air defence, the effort to strengthen interceptor aircraft and surface-to-air missile strength was continued. The air defence forces or PVO commanded about 6,000 fighter aircraft in 1964. The interceptor inventory still included older aircraft types, such as the MiG-17 Fresco, the MiG-19 Farmer, the mainstay of the PVO, and the Yak-25 Flashlight. The PVO also took delivery of new aircraft types including the SU-7 Fitter, the SU-9 Fishpet B, the MiG-21 Fishbed, (184) the Yak-28 Brewer, (185) and the Tu-28 Fiddler. (186) The sophisticated MiG-23 Flipper was also reported to be in limited service. (187) Despite Khrushchev's occasionally


(185) Holst, op. cit., p.62.


unflattering references to manned aircraft, the record of
interceptor deployments during this period reflected continued
confidence in their effectiveness.

The PVO also commanded a growing force of surface-to-air
missiles, including: the SA-1 Guild, an unboosted missile with
an impact range of 18 n.m., the SA-2 Guideline, a two-stage
boosted missile able to operate at altitudes of over 60,000 feet
and with an impact range of 25 n.m., and the SA-5 Griffen, a
two-stage boosted weapon superior in impact range and altitude
ceiling to Guideline and with a probable nuclear capability. (188)

M.J.H. Taylor and J.W.R. Taylor, Missiles of
the World. London: Ian Allan, 1972,
pp.46, 47, 49; Also on air defence, see
Y. Tain, 'Soviet Anti-aircraft Defence',
Bulletin, Institute for the Study of USSR,
vol.7, June 1960, pp.33-38; 'Soviet Air
Defence Estimates', Interavia, vol.19,
June 1964, p.811.
Ballistic Missile Defence

Declaratory doctrine clearly stated the necessity of protecting the USSR from ICBM attack, while the public statements of Mr. Khrushchev occasionally laid claim to an existing Ballistic Missile Defence (BMD) capability. However, in the case of BMD, official rhetoric far outstretched operational capabilities as Khrushchev left office without having deployed an effective anti-ballistic missile (ABM) system. Nevertheless, research into the problem of missile defence continued. In 1963 the Russians claimed that the SA-5 Griffon missile was capable of destroying ICBMs, a claim regarded as suspect in the west. A major Griffon deployment around Leningrad in a BMD role may have begun in 1962, but was never completed. In 1964 the Soviet Union also described the Galosh missile as effective against ICBM attack; however, no Galosh deployment was undertaken during the Khrushchev period. (189)

Civil Defence

The doctrinal requirement for civil defence preparations was apparently implemented in a programme of shelter construction and training courses for the civilian population. Shelter construction began in the early 1950s and reportedly reached extensive proportions in the succeeding decade. By 1962, the compulsory civil defence training programme included four consecutive courses providing a total of sixty-four hours of instruction. In the same year the civil defence organisation, DOSAAF, announced that because 'the majority of the citizens have familiarised themselves with the effects of such (nuclear, chemical and bacteriological) weapons, and with collective (shelters) and individual means of protection', a new nineteen hour course was to begin, offering training on survival in contaminated areas, first aid, evacuation, shelter use and post-attack problems.

Ground Forces

Although Khrushchev moved Soviet declaratory doctrine to a concentration on missile-nuclear weapons and reduced the number of Army troops, during the 1960s the programme of Army modernisation and re-organisation, underway since the end of the Great Patriotic War, was continued, stressing, as before, fire power and mobility. The improvement in fire power was achieved through the further nuclearisation of the ground forces, equipping the Army down to divisional level with nuclear weapons fixed atop rockets and tactical missiles. This expanded nuclear capability, while accompanied by a reduction in the quantity of conventional artillery, was also paralleled by improvements in non-nuclear weapons.

The improved mobility required on the nuclear battlefield inspired a continuing re-organisation designed to develop a streamlined high-speed Army. At the close of the Khrushchev period, the ground forces had been cut to 140 divisions of reduced size, including eighty motorised rifle divisions, fifty tank divisions and some seven airborne divisions. These forces

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now fully motorised, enjoyed a higher armour-manpower ratio than ever before. They were also strengthened by the delivery of improved weapons types including the T-62 tank. It was apparent from the record of Soviet policy in the 1960s that, despite the Premier's harsher public judgements on the declining utility of ground forces, the Army was to remain the largest of the USSR's armed services, as well as preserving highly significant strategic responsibilities. (192)

Tactical Aviation

As a part of the generally adverse assessment of aircraft in this period, the doctrinal status of tactical aviation perceptibly receded, although it was not without its distinguished advocates, particularly at the close of the Khrushchev period. (193) The number of tactical aircraft was dramatically reduced from some 10,000 in the mid-1950s to about 4,000 by 1964, with a major part of this reduction accomplished in about 1960. The retirement of the ageing IL-28 jet bomber accounted for much of the decline in the tactical inventory. At the same time tactical missile strength was expanded. Nevertheless, tactical aviation benefitted from the introduction of some of the new aircraft types also delivered to the PVO, including the ground attack Yak-28 Fitter, the supersonic light bomber SU-7 Brewer and the twin-engined Mangrove reconnaissance aircraft. Tactical air power also retained a part in improving the much needed mobility of the general purpose forces, as well as a role in the delivery of tactical nuclear weapons. (194)

(193) See above, pp. 427-430.

Warsaw Pact

Soviet policy concerning the Warsaw Pact in the early 1960s marked a clear departure from that of the previous decade. After several years in which little was done to establish the Pact as an integrated and effective military organisation, from 1960 to 1964 Mr. Khrushchev increased the degree of military co-operation between the Soviet Union and its alliance partners and expanded the capabilities of the eastern European countries from a largely air defence function to participation in both the defensive and offensive aspects of a European ground war. This effort involved the beginning of joint military manoeuvres among Pact members and the modernisation of their armed forces through the delivery of modern Soviet weapons including T-54 and T-55 tanks, MiG-21 and SU-7 aircraft and tactical missile units. All tactical nuclear warheads remained under Soviet control but the delivery of tactical delivery systems to the USSR's European allies represented an important change in the Russian attitude toward the Warsaw Pact as a military alliance. (195)

In about 1961 Soviet naval policy underwent a major change which was not reflected in the writings of the Sokolovskii authors. Although Sokolovskii denied the Navy a 'decisive' strategic mission, during the early 1960s it was apparently decided to expand the operational scope of the surface and subsurface Navy and to assign the missile-firing submarine a role in the 'decisive' strategic nuclear mission. This decision followed an acceleration in American Polaris construction as well as the improvement in the capabilities of US carrier aircraft, permitting air strikes from the South Norwegian Sea with such aircraft as the A-3D. It was clearly essential for the Russians to begin a forward naval deployment or counter-deployment, meeting the enemy on the high seas and grappling with his growing seaborne nuclear

(196) Michael MccGwire argues that Sokolovskii cannot be criticised for anything other than realistically describing the role of the Navy based upon its capabilities at the time the book was written (1961-1962). He was not attempting to discuss the role of the Navy after more sophisticated systems would become operational later in the decade; see MccGwire, 'The Turning Points in Soviet Naval Policy', op. cit., pp.161-163.

capability before it could be launched against the USSR. Any policy which did not allow the Soviet Navy to engage the Americans at relatively close quarters would leave the Soviet Union unable to reach an enemy threatening devastation from the sea.\(^ {198}\) The Navy's forward advance did not signal Soviet adoption of a western style 'command of the seas' doctrine or the construction of a 'balanced fleet' on the American model. It did, however, involve the capability to deny command of the seas to western navies through the deployment of a Soviet fleet capable of surviving at sea long enough to fire its load of torpedoes and missiles against the enemy.\(^ {199}\)

Under this 'sea-denying' concept, the anti-Polaris mission was established as 'the most important task of the Soviet Navy',\(^ {200}\) while the destruction of the American carrier

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force remained a high priority. The Navy was also charged with the further development of its own strategic nuclear capability, as well as its more traditional responsibilities in controlling the four Russian fleet areas and protecting the Army’s seaward flanks. The shift in policy was soon reflected in naval deployments and operations and in ship construction. From 1962 to 1963 the Navy began to push beyond its traditional fleet areas into waters occupied by American carriers and Polaris submarines. Naval exercises were carried out in the North Sea and Norwegian Sea, western exercises were attentively observed, ocean-going submarine patrols were increased and in 1963 the Soviet Navy entered the Mediterranean, followed by the first sustained Soviet Mediterranean deployment of surface ships in 1964.

In accord with the increased demands placed upon the Navy it was decided to modify existing surface ship types while pursuing the development of new warship classes. After the

(201) Erickson, 'Soviet Military Power', op. cit., pp.53-54.
construction of only four units, the Kynda-class cruiser programme was cancelled as unsuitable for the Navy's new operational concept. At the same time, the conversion of the Krupnyi-class cruiser and the Kotlin-class destroyer was also decided upon, eventually producing the Kanin and Kotlin anti-submarine destroyers, with improved anti-submarine and surface-to-air capabilities on a par with the Kashin-class destroyers. The Kashin-class also underwent changes as a result of the 1961 decisions on naval policy. The Kashin first became operational in 1964. In addition, development work was undertaken on several other ship types which were to join the fleet by the late 1960s or early 1970s. These included the Kresta I and Kresta II and Kara-class missile cruisers. The change in naval policy in the early 1960s


also resulted in the construction of the Moskva, a 20,000 ton anti-submarine helicopter carrier laid down between 1963 and 1964.\(^{207}\) Another aspect of the Navy's newly expanded role was evident in the beginning of an improvement in the capability to inject Soviet military power outside Europe through the expansion of the nation's maritime-air-logistical and amphibious forces.\(^{208}\)

The course correction adopted in naval policy during the early 1960s was also reflected in the Soviet Union's subsurface forces. The pace of America's Polaris programme made clear that the Soviet force of missile firing submarines was grossly inadequate, requiring urgent and intensive further development. After many years in which the submarine was regarded as a critically important but essentially defensive system, by 1963 the missile firing submarine was accepted as a part of the USSR's total strategic nuclear capability, along with the Strategic Missile Forces and Long-Range Aviation.\(^{209}\)


\(^{209}\) Erickson, 'The Soviet Naval High Command', \textit{op. cit.}, p.69.
Below the strategic nuclear level, the combination of the cruise missile firing J-class submarine and the Badger aircraft, were clearly inadequate against American carriers of improved range, requiring the superior capabilities of the E-class nuclear submarine,\(^{(210)}\) which began to join the fleet in the early 1960s.\(^{(211)}\) The torpedo armed submarine force continued to receive diesel submarines of the R-class and F-class, with the latter originally intended for strategic delivery but re-assigned after the Cuban missile crisis. The fleet was strengthened by additional N-class submarines, also originally designed for the strategic delivery of nuclear armed torpedoes, but shifted to a counter-carrier role in the late 1950s. Development of the V-class and A-class nuclear types proceeded, with the former to serve in a torpedo attack role against submarines and

\(^{(210)}\) Erickson, 'Soviet Military Power', *op. cit.*, p.52.


Evidence of Reaction

Strategic Claims and Surprise Attack

The late 1950s and early 1960s recorded a number of assertions by Soviet leaders and military commanders claiming massive strategic capabilities. At their most unassuming, these assertions described the USSR as the strategic equal of the United States and on several occasions laid claim to superiority over the Americans or at least to a significant advantage of some kind. In the event of war the tremendous power of the Soviet Union was said to assure a Russian victory, even should the United States launch a surprise attack. The magnitude of Soviet strength was said to rule out any possibility of a successful American first-strike, equipping the USSR for the launch of a devastating retaliatory response, without the necessity of any pre-emptive blow. Such extravagant statements were clearly related to the state of the strategic balance or 'imbalance' between the Soviet Union and the United States, inspiring the Russians to inflate their public claims far beyond the levels of their operational forces in an effort to close or narrow the vast 'deterrent gap' existing between the two countries, as well as to strengthen the military foundations of the nation's foreign policy.
Occasional public statements implying that, contrary to the official position on pre-emption, the Soviet Union was in fact prepared to launch a pre-emptive strike under certain circumstances can also be regarded as essentially responsive to an American defence policy which had achieved a position of overwhelming nuclear superiority for the United States. In a radically unbalanced strategic relationship the USSR was all but compelled to consider a pre-emptive blow should an American attack appear imminent. Without such a pre-emptive move there was every possibility that the Soviet Union's much inferior forces would be wiped out before receiving their launch orders. Indeed, the highly unequal state of the strategic balance may have encouraged both the Americans and the Russians to consider the possibility of launching a pre-emptive strike. While the Soviet Union's position as the distinctly junior nuclear power recommended serious consideration of pre-emption as the only means by which the USSR might shield itself from the full effect of an imminent American assault, the overwhelming US nuclear advantage offered the United States the opportunity to 'win' a future war by most of the USSR's strategic weapons with a single pre-emptive blow.
Rejection of McNamara's 'Rules'

The great disparity between Russian and American deployments also prompted Soviet declaratory doctrine to extract the maximum deterrent effect from the USSR's inferior strategic forces by rejecting any suggestion that a nuclear war could be conducted on the basis of Robert McNamara's counterforce proposal of 1962. While the Soviet denunciation of McNamara's 'rules' was probably supported by the professional military judgement that the effective limitation of a nuclear war was impossible, a counterforce strategy was in any case beyond the capabilities of the USSR's minimum deterrent force. Whatever the value of the concept in theory, a successful Soviet counterforce strike was simply inconceivable. However, by damning counterforce targeting and 'controlled response' as 'monstrous' and warning that any attack against the USSR would trigger an assault upon America's cities, Khrushchev provided even a vastly superior enemy with strong motivation for abstaining from violence. (213) In deploying only a relatively small strategic force threatening the devastation of urban America, the USSR adopted what might be termed a 'mini-max' solution to the problem of strategic inferiority, deriving maximum deterrent effect from a minimum of nuclear strength.

Similarly, the official view on the impracticality of limiting any Soviet-American clash to conventional weapons was probably motivated in part by the Soviet belief that each side would employ all the military means at its command to secure a victory or at least to avoid defeat. However, the warning that any aggressive move against the USSR would end in nuclear war may also have been inspired by the need to increase the effectiveness of Soviet deterrence against an adversary engaged in a major conventional build-up, as well as a dramatic increase in its strategic nuclear advantage.

**Defence Spending and Military Manpower**

While Khrushchev's support for a reduction in defence related investment as well as in the level of military manpower were in part prompted by his domestic objectives, the record of Soviet policy affecting both defence spending and military manpower during the early 1960s reveals some degree of responsiveness to American actions. The increased rate of defence expenditure in 1961 and 1962, although part of a trend begun in the late 1950s, and the suspension of Khrushchev's third major manpower reduction were related to increasing tension over Berlin, as well as to the vast strategic nuclear build-up underway in the United States. Similarly, the reduction in defence spending announced for 1964 and the renewed effort to reduce the numbers of Soviet servicemen were also probably tied to the emergence of detente.
between the United States and the Soviet Union at the end of the Khrushchev period. However, while the levels of military expenditure and manpower were restrained, Khrushchev's limited success in reducing the national defence effort, as well as in re-allocating the nation's budgetary and manpower resources to the advantage of the civilian economy, was very importantly affected by the intense opposition which the Premier's policies aroused within the Soviet armed forces. Khrushchev was compelled to accept a manpower and budgetary compromise, preserving large non-nuclear forces and a high level of investment in the defence related sector of the national economy. (214)

Cuban 'Quick-Fix'

A full understanding of the motives behind the deployment of ballistic missiles and bomber aircraft in Cuba may never be possible. However, Khrushchev's Cuban initiative was, in large part, if not entirely, a reaction to American actions and policy. By 1962 the United States had deployed 300 to 400 ICBMs as against some fifty to seventy-five ICBMs and several hundred M/IRBMs for the Soviet Union. The USA also commanded approximately 150 SLBMs, opposed by twenty-five Soviet submarine launched missiles, much inferior to the Polaris missile and fitted aboard submarines unequal to those of the United States. Finally, the Strategic Air Command disposed of some 630 B-52s and 850 B-47s, while the Russians deployed only about 190-200 long-range aircraft and some 1,000 medium-range aircraft. (215)

In a position of strategic inferiority of such serious proportions, amounting to the concession of a first-strike capability to the United States, it is likely that the commitment of ballistic missiles to Cuba represented a kind of

strategic 'quick-fix', intended to reduce the glaring disparity in strategic capabilities between the United States and the USSR by emplacing a number of medium and intermediate range missiles ninety miles off America's shores. Although the initial M/IRBM deployment certainly would not have provided the USSR with anything resembling strategic parity, it would have trained additional nuclear fire power directly on the United States. It may also have been followed by further missile shipments to the Caribbean which could have significantly strengthened the overall Soviet posture.

Beyond the potential affect of Khrushchev's Cuban policy on the simple arithmetic of the Soviet-American strategic relationship, the positioning of M/IRBMs in Cuba also may have been designed to deliver a much needed political or psychological boost to the Soviet effort to resolve such stubbornly difficult problems as the dispute over Berlin. These and other foreign policy objectives had eluded Khrushchev despite vigorous attempts to exploit the USSR's early lead in ICBM technology. With the end of 'missile gap' fears in the United States and clear American awareness of the actual state of US-Soviet force levels, the deployment of ballistic missiles off the Florida coast may have been seen as a means of restoring the momentum of Soviet foreign policy. The Russians explained their commitment of nuclear systems to Cuba as a response to the threat of an American invasion of the island. While the Soviet explanation
also qualifies as a reaction to US policy, it is highly unlikely that Mr. Khrushchev would have accepted the very considerable risks involved in such a challenge to the United States solely in the service of his Cuban ally or that he would have chosen ballistic missiles as the most suitable means of resisting a landing of American troops. (216)

Finally, the dispatch of M/IRBMs to the western hemisphere may also have been encouraged by the seriously deteriorating state of Sino-Soviet relations. Under intensifying criticism from Peking for the allegedly timid nature of Soviet foreign policy and its failure to make the most of Russia's missile capability, operational nuclear delivery systems in Cuba would have demonstrated Soviet resolve. They might also have provided the basis for a series of agreements with the United States, including test ban and non-proliferation treaties.

which could have established a permanent ban on the development of Chinese nuclear weapons. (217)

First Major ICBM Deployment

After several years of unexpected moderation in ICBM construction, the later Khrushchev years witnessed the first major Soviet ICBM deployment as well as the decision to resume nuclear weapons tests and the development of very high yield warheads. From 1962 to 1964 Soviet ICBM strength increased from 75 to 200 long-range weapons, an expansion which surely represented a response to escalating Kennedy force levels but which clearly was not motivated by Kennedy policy alone. The early restraint in the Soviet missile programme had stemmed in part from the technical limitations of the USSR’s first-generation systems. Further, the eventually intensified deployment effort in second-generation systems was made possible by an acceleration in missile development stemming from the later half of the 1950s. The heightened R & D programme had also been accompanied by a steady improvement in the doctrinal and institutional status of the Soviet missile forces, a trend underway several years before John F. Kennedy came to the presidency.

Nevertheless, while Soviet deployment decision in the 1960s cannot be fully explained in terms of immediately contemporary American actions, Kennedy policy undoubtedly argued powerfully for higher Soviet force levels. As President Eisenhower left the White House, America's overall nuclear superiority was already
very considerable. Despite the established US advantage and
the end of 'missile gap' fears, the Kennedy Administration
approved further deployments which achieved a margin of
ballistic missile superiority for the United States of four-
to-one. This massive US build-up, together with Defence
Secretary McNamara's public support for counterforce targeting,
may well have convinced many Russians commanders of America's
commitment to a first-strike strategy. (218) Whatever the
Soviet assessment of American intentions, the tremendous growth
in the US nuclear power, with its unwelcome political
implications, clearly demanded some kind of Russian reaction.
The USSR's Cuban defeat in 1962, while not in fact responsible
for Khrushchev's deployment of second generation ICBMs,
indelibly underlined the unacceptable constraints imposed upon
Soviet policy by the USSR's marked strategic inferiority, all
but irresistably compelling an expansion of the USSR's missile
arsenal. (219)

(218) Young, op. cit., pp.170-174.
The continuing Soviet M/IRBM build-up in the first half of the 1960s, reaching a total of some 700-750 missiles, was in part the result of the persistent Russian concern with the European theatre. Large M/IRBM forces contributed to Soviet political influence in western Europe and strengthened the USSR against any continental attack in a time when the British nuclear deterrent was joined by the French force de frappe. However, the major investment in missiles of less than intercontinental range can also be considered as at least an indirect reaction to the United States. In the face of a greater than ever level of American nuclear superiority, a clear Russian threat to western Europe continued to offer valuable reinforcement to the overall Soviet capability. Outside the European context, the decision to install M/IRBMs in Cuba indicated that these weapons were seen as useful in correcting the badly distorted Soviet-American strategic balance. Finally, the new heavily nuclearised US forces in Europe and NATO's largely nuclear strategy, provided ample motivation for the assignment of heavy Soviet nuclear fire power to the European theatre.
Strategic Aviation

Despite the long standing Soviet emphasis on ballistic missiles, as well as the beginning of the first substantial ICBM deployment and an increasing concern with the USSR's intercontinental adversary, the Soviet Long-Range Air Force in the 1960s retained its established structure, stressing medium-range aircraft, while preserving a long-range element of some 200 bombers. The maintenance of a long-range air arm found ready justification in a period of dramatic disparity between Soviet and American force levels, offering a useful contribution to the nation's overall nuclear capability in a time of very substantial Russian inferiority in ICBMs.

However, while the Long-Range Air Force can be regarded as an aspect of the Soviet response to the great and growing levels of American nuclear power, Soviet policy affecting the strategic air power continued to diverge sharply from the example of SAC. Soviet aircraft were confined to a distinctly secondary doctrinal status and no effort was made to emulate the US deployment of very large numbers of intercontinental bombers. Rather than invest heavily in strategic aviation, during the early 1960s the USSR instead chose to approve an expansion of its ICBM arsenal. This decision was likely the result of constraints on Soviet resources which would have made any entirely faithful copy of US 'model' extremely difficult, as well as the Soviet judgement that the
ballistic missile, represented a superior delivery system. Finally, in holding to its strong medium-range bias, the USSR's strategic air force reflected the continuing importance of Europe in Soviet calculations - now heavily nuclearised under the North Atlantic Alliance.

**Strategic Defence**

The important place of strategic defence in Soviet declaratory doctrine, as well as the continuing effort to improve the USSR's strategic defences, were surely driven forward by the awesome Kennedy build-up in America's offensive systems. The Strategic Air Command deployed a huge force of long-range bombers which alone could have brought terrible destruction to the Soviet Union, requiring a Russian attempt to degrade the potential effect of a full-scale American air strike. Further, the tremendous expansion of US ICBM and SLBM forces may well have lent increasing urgency to the existing ABM research programme. Similarly the genuine effort to provide some degree of protection from nuclear attack for the nation's population was encouraged by US strategic force levels.

Soviet assertions of an already highly effective air defence capability, as well as an operational BMD system, were also reactions to US deployments, inspired by the need to
strengthen the potency of Soviet deterrence in a period of
dramatic imbalance between the USA and the USSR. However,
despite the public claims and the genuine effort to improve
the nation's strategic defences, the Soviet Union clearly
remained entirely unable to resist a missile attack and
incapable of preventing large numbers of American bombers from
penetrating Soviet airspace. The absence of an anti-ballistic
missile system was obviously related to the same technical
problem which had also persuaded the United States against an
ABM deployment. The failure to provide more effective air
defence was, in part, the consequence of economic constraints
but may also have stemmed from Khrushchev's general conception
of nuclear warfare as largely an exercise in self-destruction,
regardless of the precise levels of offensive and defensive
deployments on each side. With Soviet strategy consequently
tied to an almost entirely deterrence orientated policy, the
need for highly effective strategic defences may well have
appeared less than an urgent necessity.
Khrushchev clearly proclaimed the displacement of ground forces by ballistic missiles as the dominant factor in modern warfare, ordering reductions in military manpower totals, as missile-nuclear forces assumed their critical responsibilities. Nevertheless, the validity of the combined arms principle continued to receive public acknowledgement and the Army retained a very important place within declaratory doctrine.

The motivations for the maintenance of powerful ground forces during the early 1960s included those essentially non-responsive factors, non-responsive within the direct Soviet-American context, which had long sustained large Russian ground armies: Russian tradition and historical experience, the need to preserve Soviet influence in both eastern and western Europe, the possibility of a European advance on Soviet territory and the domestic political strength of the Soviet Army. Indeed, the significance of the last of these factors was evidently sufficient to compel a modification in Khrushchev's plans for much reduced Army strength and a substantial increase in the civilian economy.

However, the actions of the Kennedy Administration also strongly argued for powerful ground forces. The breathtaking expansion of American strategic superiority in the 1960s
preserved the deterrent value of a serious Soviet threat to western Europe. A period of gross strategic imbalance was surely not the moment for discarding the benefits of the 'hostage Europe' policy. The maintenance of high Army force levels also found compelling justification in the Kennedy effort to substantially expand America's non-nuclear capabilities. Critical of the Eisenhower stress on nuclear power, the Kennedy Administration announced its attachment to a strategy of 'flexible response', a policy designed to raise the nuclear threshold in Europe by preparing the United States to engage the Soviet Union in conventional warfare. Strengthened US conventional capabilities and a public American commitment to a non-nuclear option obviously encouraged the USSR to retain large and effective ground armies.

The swelling arsenal of American tactical nuclear weapons in Europe provided yet another motivation for major ground deployments. The expectation that any clash between the North Atlantic Alliance and the Warsaw Pact would involve a highly destructive exchange of tactical nuclear forces required large numbers of combat troops if the Soviet Army was to succeed in conducting a rapid offensive against western Europe.
Soviet naval doctrine and policy in Khrushchev's final years continued to react sharply to American developments. The increasing nuclear threat posed by the United States Navy demanded a major extension of the USSR's naval operations into waters never before regularly patrolled by the Soviet Navy. The powerful fleet of American aircraft carriers and Polaris submarines prised the Russians out of their home waters and into the North Sea, the Norwegian Sea and the Mediterranean, drawing the Soviet Navy into the conduct of operations of fully strategic scope and significance. The rapid increase in the numbers of American Polaris submarines established the destruction of the US nuclear submarine forces as the most important assignment of Soviet naval power. The example of American missile submarine units, far superior in quality to those of the USSR, also probably encouraged the intensive development of equivalent Russian forces and promoted Soviet acceptance of missile submarines among those systems charged with a strategic nuclear mission. Finally, the elimination of US aircraft carriers remained a high priority for USSR naval commanders.

Although policy affecting Soviet sea power demonstrated a keen awareness of the mounting seaborne nuclear 'threat', the Russians continued to rely upon Soviet solutions to the problems posed by the US Navy. Failing to imitate either American naval strategy or force structure, the Navy adopted a 'sea-denying'
rather than a 'command of the seas' posture and deployed a
force still weighted in favour of subsurface units and
relatively light missile armed surface vessels, rather than
a large 'balanced fleet' of the American type.

The Warsaw Pact

The marked change in Soviet policy affecting the Warsaw
Pact was inspired by many of the same factors prompting the
continued support of major Russian ground forces. A Warsaw
Alliance with much improved military capabilities was of value
in sustaining Soviet political influence in Europe, providing
useful support in the achievement of the USSR's foreign policy
objectives on the continent. A Pact prepared to conduct
significant ground operations could also aid resistance against
any European assault on the socialist block. The reinforced
alliance further increased the effectiveness of the 'hostage
Europe' policy and better prepared the USSR to meet the growing
conventional capabilities of the United States. Finally, the
challenge of an extensively nuclearised NATO could also be more
successfully met by the development of the Warsaw Pact as an
effective military organisation.
Evidence of Other Factors Influencing Soviet Strategic Doctrine and Defence Policy

'Modernist' - 'Traditionalist' Debate

While a general re-examination of Soviet doctrine was surely urged by developments in the United States, during the 1960s the debate over such issues as the strategic significance of modern weapons, the validity of deterrence, the role of ground forces and other issues, was affected by much more than Soviet assessments of US capabilities and intentions. It was undoubtedly coloured by the conflicting institutional interests among the armed forces, as well as conflicts between the services and the nation's political leadership. Differing domestic policy objectives, particularly concerning the future development of the Soviet economy, also played a part in shaping the views of the opposing factions. The dispute was further influenced by genuine differences of opinion or judgement among professional soldiers as to the nature of a future war, the effectiveness of any given strategy or the capabilities of individual weapons systems. The mixed origins of officially approved strategic doctrine in this period were reflected in its blend of 'modernist' and 'traditionalist' elements, together representing a compromise among various opinions and interests, rather than the product of American policy and actions alone.
Assessment of ICBMs

The highly admiring Soviet assessment of ICBMs in the late 1950s and early 1960s was partially inspired by a desire to wring the maximum degree of advantage - deterrent, political and propaganda - from the USSR's lead in missile development, devaluing the strategic bomber which still occupied an important place in American strategy. However, the formal investiture of the ICBM in 1960 as the decisive factor in modern warfare was also based upon the Soviet judgement of the strategic significance of the ballistic missile. This judgement, made at the expense of all other weapons systems, preceded the later American acceptance of the ICBM as the first ranking delivery vehicle.

ICBM Deployments

Soviet ICBM deployments in the 1960s were undoubtedly affected by American actions. The rapid Kennedy achievement of overwhelming strategic superiority added to the outcome of the Cuban confrontation demanded the deployment of a substantial Soviet ICBM force. However, despite the importance of Kennedy policy in stimulating increased missile construction in the USSR, the expansion of Soviet ICBM forces was also the product of a well established and continually intensifying doctrinal commitment to
the ballistic missile, as well as an accelerating R & D programme which long preceded John Kennedy's presidential tenure. Further, even under the pressure of American defence policy in the 1960s, Khrushchev did not approve any frantic dash for strategic equality, a decision clearly involving non-responsive judgements and influences.

Rather than react to the already broad margin of US superiority in the late 1950s or to the even more massive American capabilities promised by the President-elect in 1960, during the years 1960-1962 Khrushchev chose to abstain from a heavy investment in the Soviet Union's unsatisfactory first-generation missiles. Although the beginning of a major deployment programme in 1962 was surely encouraged by a Kennedy defence policy which looked perilously like a commitment to a first-strike posture, Mr. Khrushchev persistently failed to meet his full obligations under the rules of 'action-reaction'. While approving the deployment of a second-generation system when it eventually became available and laying the R & D groundwork which enabled his successors to approve a tremendous increase in Soviet nuclear strength, (220) Khrushchev did not order any frenzied effort to match American force levels.

(220) Edmonds, op. cit., p.38n.
Khrushchev's relative restraint was probably based upon the belief that the United States had not increased its strategic advantage with the intention of going to war. The Soviet Union, therefore, required only those forces necessary to deter rather than to resist attack. A moderate Soviet deployment policy was also advanced by the extremely unattractive prospect of an uninhibited arms competition with a rival commanding economic and technical resources far in excess of those available to the USSR. The gaping shortfall in Soviet resources aside, any fire ranging weapons contest would also have conflicted with the Premier's domestic economic objections.

Finally, Khrushchev's relatively low force levels were also related to an assessment of nuclear weapons and modern warfare which, unlike the American analysis, apparently did not require massive strategic capabilities or anything approaching parity with the United States. During the early 1960s the nation's political leadership seemingly continued to accept the view that the obliterating destructiveness of modern weapons had drastically reduced the combat utility of strategic systems, draining the concept of 'war-waging' of much of its former significance. In such circumstances, with war regarded as unlikely, as well as an inevitably ruinous disaster, quantitative comparisons of strategic armament totals were of less than critical
significance and even a much inferior nuclear force could be relied upon to provide an effective deterrent. (221)

Strategic Aviation

The doctrinal pre-eminence of the Strategic Missile Forces was achieved at the expense of the established Soviet armed forces, including the Long-Range Air Force. The inferior status of strategic aviation may have been promoted by a Soviet desire to denigrate the delivery system which was to remain the basis of America's strike capability until the early 1960s. However, it was also the product of an independent Soviet judgement on the relative capabilities of aircraft and missiles, a judgement which the United States did not explicitly share until Robert McNamara's public defence of the ICBM bias in American deployments during the missile bomber controversy of the Kennedy years. (222) The apparent improvement in the doctrinal position of long-range air power in the final two or three years of the Khrushchev period was probably related to the end of the 'missile gap' issue in the


(222) See below, Section III Chapter 1.
United States and the growing breadth of American superiority in ICBMs, urging the Russians to upgrade the publicly acknowledged capabilities of strategic aircraft. Nevertheless, although the bomber continued to rank among the Soviet Union's strategic delivery systems, the ICBM was still regarded as the superior, indeed the decisive, weapon.

**Short War - Long War Issue**

The Soviet position on the duration of a full-scale east-west conflict was never entirely clarified, although Khrushchev was often personally associated with the short war view. Whatever the state of Soviet doctrine on the short-war issue, it would appear from the record of deployments in the Khrushchev years, that the Premier had in fact moved Soviet strategy to at most, a short war posture. As Khrushchev never provided the USSR with the capability to inflict sufficient damage upon America to permit the conduct of a prolonged struggle, the Soviet Union, particularly in the late 1950s and early 1960s, was unable to wage anything more than a relatively short war. The Soviet attachment to a short war expectation was surely affected by the radically unequal levels of Soviet and American nuclear strength and the USSR's unwillingness or inability to achieve something like parity with the United States.
However, the Premier's short war policy was also apparently influenced by the conviction that strategic nuclear weapons had fundamentally altered the nature of warfare. Modern weapons had largely eliminated war-waging as a rational means of achieving policy objectives by unquestionably demonstrating that a future conflict would bring terrible destruction to both sides, regardless of the level of peacetime deployments. Nuclear weapons were, therefore, primarily of value in sustaining a strategy of deterrence. As such, the USSR required only those forces necessary to preserve credible deterrence or 'war-avoidance', forces which effectively secured the Soviet Union from attack while providing no more than a short war capability in the improbable and unavoidably catastrophic event of a failure in deterrence.

It might be argued that both the Americans and Russians at this time were, in fact, brought to the acceptance of a short war expectation from the opposing poles of vast nuclear superiority and very considerable strategic inferiority. The tremendous increase in US strength during the Kennedy years was to provide the United States with the ability to assault the USSR with a massive strike against the enemy's armed forces and industrial base, bringing any conflict to a comparatively rapid end. On the other hand, the much inferior capabilities of the Soviet Union, preparing the Russians for little more than a punitive second-strike, equipped the USSR for the conduct of only a relatively brief strategic contest.
Initial Period of a Nuclear War and Forces-in-Being

Similarly, the declaratory view on the great importance of the initial period of a strategic nuclear war, as well as the official evaluation of forces-in-being, can be charged to the Soviet assessment of the nature and implications of nuclear weapons. Although Soviet conclusions on each of these issues could only have been confirmed by the Kennedy Administration's drive for a position of tremendous strategic superiority, the assignment of critical significance to the opening stage of a general war and the expectation that such a conflict would largely be decided by those forces deployed in peacetime, were judgements to which any nuclear power might have come without benefit of American tutoring. In any case, the relatively low level of Khrushchev's nuclear deployments assured that the initial phase of any future war, as well as the effectiveness of each side's forces-in-being, would in fact prove to be of decisive importance should deterrence fail.
Tactical Aviation

Although tactical aviation was by no means abolished during the Khrushchev period and in fact benefitted from the acquisition of new aircraft types, it clearly suffered a decline in doctrinal status which was reflected in a major reduction in the total inventory of tactical aircraft and a growing number of battlefield missiles. This apparent modification in Soviet policy affecting the conduct of tactical operations, can be charged to the Soviet conviction that short-range surface-to-surface missiles provided a superior means of achieving those objectives normally assigned to tactical aircraft.
Conclusions

The influence of American policy and actions upon the strategic doctrine and defence policy of the Soviet Union continued to be very substantial during the later half of the Khrushchev period. The declaratory boasts of vast offensive and defensive nuclear capabilities, reaching to claims of strategic superiority over the United States and the complete rejection of any concept of limitation in nuclear warfare, were inspired by the need to preserve the effectiveness of Soviet deterrence and limit the degree of political advantage accruing to the Americans from a position of overwhelming superiority. The absence of anything resembling equilibrium in the Soviet-American strategic 'balance' stimulated the dispatch of M/IRBMs to Cuba and the approval of the Soviet Union's first major deployment of ICBMs. The USSR's stark inferiority in ballistic missiles probably encouraged the maintenance of a long-range air arm, as well as large ground forces, with the latter also demanded by the American policy of 'flexible response'. Finally, the Soviet Navy continued to react to the mounting nuclear menace posed by the US Navy, extending its operational sphere and capabilities.

Although the overall trend in the 1960s toward an expansion of the USSR's capabilities undoubtedly received sharp stimulation from the spiralling total of American armaments, Soviet strategic
doctrine and defence policy, as well as the level and structure of Soviet deployments, demonstrated the still weighty influence of a host of internal or domestic factors on the course of doctrine and policy. While the intensifying Soviet investment in weapons systems of intercontinental range can be charged to the United States, the pioneering Russian assessment of the ballistic missile as the decisive weapon of the future, was not dictated by American actions but represented an independent Soviet judgement. The assignment of strategic aviation to a distinctly secondary status, was also the product of Soviet analyses of modern weapons and warfare.

Beyond questions of doctrinal status the overall levels of strategic deployment and the structure of the USSR's nuclear forces, clearly displayed the effect of domestic influences on Soviet policy. Rather than deploy a massive 'triad' of aircraft, ICBMs and missile launching submarines, Khrushchev developed a missile force of relatively moderate proportions, which retained a heavy medium-range emphasis, as well as a force of long-range bombers which also revealed a major investment in systems with less than an intercontinental capability. Finally, the Soviet submarine fleet was unlike that of the US Navy in either its character or capabilities. The markedly 'un-American' structure of Soviet nuclear forces was largely the consequence of the economic constraints affecting Soviet defence policy and the domestic economic objectives of the nation's political leadership.
Russian force structure was also the consequence of a persistent concern with the European theatre and Mr. Khrushchev's personal estimate of the significance of nuclear systems for modern war. Independent Soviet judgements were also an ingredient in shaping the official view on the long-war short-war issue, as well as the declaratory assessment of the initial period of a nuclear conflict and the role of forces-in-being.

Below the full-scale strategic level, general purpose forces were also influenced by internal factors and independent judgements. The ground forces, although suffering a major decline in their doctrinal position, were retained in strength in order to meet the needs of Soviet policy in Europe, as well as to bolster the USSR's overall deterrent against American attack. The Navy, while already responding to an escalating seaborne 'threat', reacted in largely non-emulative fashion, holding to its bias in favour of light surface ships and a large subsurface fleet.

In short, during the early 1960s, the surge forward in American force levels undoubtedly stimulated a general expansion in Soviet capabilities. However, the nature and extent of that expansion was in very large measure determined by a wide range of internal factors and independent judgements which preserved the distinctive quality of the nation's strategic doctrine and force structure.
During the early 1960s Soviet declaratory doctrine centred around a deterrence concept based upon a massively powerful offensive nuclear capability combined with an effective system of strategic defence. Among the nation's armed services the Strategic Missile Forces were charged with the critical deterrent and war-waging roles. The traditionally dominant ground forces, while retaining significant responsibilities, were dislodged from their position of doctrinal primacy, yielding the decisive mission to the ICBM. Should deterrence fail, Soviet declaratory doctrine anticipated a conflict which would be decided largely by its initial nuclear phase, a relatively brief but entirely unlimited struggle in which the Soviet Union would employ the full range of its capabilities in pursuit of a conclusive victory.

An examination of Soviet defence policy and deployments reveals an operational deterrence strategy markedly at odds with the declaratory treatment of the concept. In place of the nuclear 'war-winning' capability described in official statements, the USSR commanded strategic forces which, while much enlarged since the 1950s, still amounted to no more than a fraction of America's nuclear arsenal. Khrushchev's force levels implied a deterrent founded not upon effective ability to wage and win a future war, but only upon the promise of a punitive second-strike
largely directed against America's major cities. By denouncing Robert McNamara's theories of limited strategic warfare and highlighting the critically endangered situation of urban America, the USSR obtained the maximum deterrent affect from its minimal deployments. The direct Russian threat to the mainland USA was supplemented by a continuing expression of the ageing 'hostage Europe' concept implemented by M/IRBMs and a modernised Soviet Army. In short, despite the character of declaratory doctrine and the achievement of a significant increase in Soviet nuclear capabilities, during the 1960s Khrushchev remained firmly fixed to a 'minimum deterrence' or 'deterrence only' strategy apparently reconciled to a position of strategic inferiority throughout the foreseeable future.

**Origins**

The motives behind 'minimum deterrence' or 'war-avoidance' in Khrushchev's final years were largely those which had originally spawned the concept in the 1950s. Khrushchev evidently continued to believe that there was little danger of an entirely unprovoked American attack, despite the great increase in US nuclear strength under the Kennedy Administration. With nuclear war unlikely, the need for strategic force levels rivalling those of the United States, was less than critical.
In the absence of critical need, the always unappealing prospect of a vastly expensive expansion in Soviet strategic armaments, shelving any plans for strengthening the civilian economy, was made doubly unattractive.

However, in addition to the problem of limited resources and the Soviet perception of American intentions, 'minimum deterrence' was also supported by the conviction that nuclear armed ICBMs promised to reduce any general war to an unwinnable disaster for both the Soviet Union and the United States. With strategic weapons stripped of much of their 'battlefield' utility, and the concept of war-waging itself greatly de-valued, the deployment of forces matching those of the United States offered little more than a marginal improvement in Soviet security purchased at astronomical cost. In such circumstances, the USSR urgently required only those forces necessary to assure an effective deterrent, a requirement which the ICBM-nuclear warhead combination adequately, if not ideally, met, even when deployed at a level inferior to that of the United States.

The retention of powerful ground forces in the Soviet definition of strategic effectiveness was related to the new and disturbing proportions of US nuclear superiority, urging the USSR to retain large formations within striking distance of America's NATO allies as a valuable buttress to the Soviet Union's overall deterrent posture. The Kennedy Administration's
build-up in US general purpose forces further motivated the maintenance of major Soviet conventional capabilities. However, the preservation of high levels of Soviet ground strength was also inspired by the USSR's political and military interests in eastern and western Europe. Further, Khrushchev's policy affecting the ground forces represented a compromise of sorts between the Premier's 'modernist' inclinations and the 'traditionalist' views of the Soviet Army, the latter having been given clear expression during the 1960s in strong Army opposition to the apparently impending Soviet lurch in the direction of strategic nuclear systems.

**Detente**

While the last of the Khrushchev years produced no major shift in the USSR's defence policy, Soviet foreign policy was modified significantly by the early stirrings of detente between the United States and the Soviet Union during the 1960s. The perceptible relaxations of tension in the Soviet-American relationship was marked by a gradual fading in the confrontation over Berlin, the establishment of a direct communication link or 'hot-line' between Washington and Moscow, the signature of the partial Nuclear Test Ban Treaty, acceptance of an agreement to abstain from the launch of spacecraft armed with weapons of
mass destruction and a Soviet-American pledge to reduce the production of fissionable materials for nuclear weapons.

The motives behind Khrushchev's acceptance of detente were probably similar to those which had consistently held Soviet nuclear forces at minimal levels. With the Soviet-American strategic balance badly skewed in favour of the United States for the foreseeable future, any foreign policy likely to reduce the danger of war and slow the rate of American strategic expansion promised highly desirable advantages. A decline in the pace of the arms race also offered a means by which the USSR might avoid the crushing economic burden imposed by any open-ended effort to prevent American superiority from growing ever greater in a time of declining Soviet industrial growth. Detente was also recommended by the opportunity it provided for exploiting the divisions already existing within NATO. An apparently receding Soviet 'threat' would create an atmosphere in which such disputes as those between the United States and France or the United Kingdom and France could be expected to thrive, as well as an environment in which NATO members would not be encouraged to maintain high force levels. Finally, the very serious conditions of Sino-Soviet relations by 1963-1964 may also have advanced the cause of east-west detente. Deteriorating since the late 1950s and badly battered by the Cuban missile crisis, Russo-Chinese relations
had reached such a low point by the early 1960s that Khrushchev had little to fear from the further criticism which an accommodation with the west would surely inspire in Peking. Further, the ferocity of China's public attacks upon Soviet policy may well have recommended an improvement in Russia's relations with the United States as a hedge against some future conflict along the USSR's eastern frontiers. (223)

By 1960 Soviet declaratory doctrine had accepted the deterrence concept, closing any remaining doctrinal 'gap' between the USSR and the USA over deterrence in principle. Similar assessments of nuclear weapons also prevailed in Moscow and Washington to the extent that nuclear systems were recognised as the mainstay of deterrence and the dominant and decisive factor in any future war. The two countries also shared the conviction that a future conflict would prove a relatively brief but furiously destructive struggle in which the initial period would be of great significance, with largely those forces-in-being at its outset providing the key to its final outcome. Finally the development of missile-nuclear technology was responsible for an increase in the status of both American and Soviet naval power during this period, while each country also assigned significant responsibilities for both deterrence and defence to its general purpose forces.

Although similarities existed between the doctrines and policies of the USA and the USSR, the 'superpowers' remained in a broadly asymmetrical relationship. They concurred in the view that nuclear weapons had emerged as the dominant factor in strategic planning, transforming the nature of future conflicts. However, the United States did not join Mr. Khrushchev in his
apparent belief that nuclear technology had all but entirely eliminated any possibility of rationally waging war, investing nuclear weapons with little more than a deterrent role. For the Kennedy Administration, deterrence was the prime, but not the exclusive, objective of defence policy. Preparations for the effective defence of the United States after a failure of deterrence remained a high priority, demanding the maintenance of force levels adequate to that purpose. As such, the Soviet and American definition of the requirements of deterrence differed sharply. With the 'war-waging' concept retaining some degree of validity in the Pentagon, fully credible deterrence required a demonstrable capability to wage war successfully, demanding the deployment of 'usable' military power, or, in other words, the deployment of very high levels of nuclear strength. In clear contrast, Khrushchev's dark interpretation of the significance of modern weapons for any future conflict urgently required only those forces necessary to threaten a punishing second strike, convincingly satisfying at least the basic needs of deterrence, without indulging in any wasteful exercises which were inevitably doomed to fail in preserving either side from the disastrous consequences of a breakdown in deterrence. In short, for the Soviet Union deterrence appeared the only practical alternative to defence, while for the United States, defence was the only reliable basis for deterrence.
The divergence between Russia and America over the implications of nuclear power for modern warfare also encouraged the Soviet Union to reject American efforts to 'rationally' consider and prepare for the failure of deterrence. With nuclear war seen as something less than a totally unmanageable catastrophe, Kennedy planners attempted to prepare the United States for the conduct of nuclear operations at several levels of conflict, developing theories of limited nuclear warfare, and 'controlled response', as well as proposing a tacit Soviet-American understanding on the restriction of nuclear strikes to military targets. Convinced that the terrible destruction of a nuclear attack could not be effectively limited and that the credibility of Soviet deterrence essentially rested upon the promise of a retaliatory strike which would include, indeed probably emphasise, population centres, the Russians denounced the Pentagon's theories as unworkable and ill-intentioned.

Finally, the Soviet Union and the United States also continued to maintain strategic forces which differed not only in size but also in structure. During the early 1960s the United States maintained its 'triad' of nuclear delivery systems: ICBMs and SLBMs, as well as intercontinental and carrier-based aircraft. However, the Kennedy years clearly established the ballistic missile as the dominant system. At the same time, the Soviet Union concentrated on ICBMs but confounded American analysts by constructing a large number of M/IRBMs. Strategic
aviation was preserved but the Russians persisted in their failure to meet America's early expectations by deploying only a relatively small force of long-range bombers, along with a far greater number of medium-range aircraft. Ballistic missiles launched from nuclear powered submarines were recognised as a system of fully strategic potential by both sides. However, the Soviet submarine fleet remained distinctly inferior to that of the United States and, unlike that of its great adversary, included a number of surface launched cruise weapons. The Soviet Navy, as a whole more closely approached the example of the American fleet in the 1960s than it had in the past by expanding its operational sphere but nevertheless continued to hold to an overall structure which strongly differed from the 'balanced' form of the US Navy.

Finally, with the new American emphasis on acquiring a conventional war-waging capability, the force structure of the two countries might be said to have taken on some greater degree of similarity with regard to non-nuclear forces. Nevertheless, the United States remained attached to a ground war strategy which included a very important role for tactical nuclear weapons. Even under 'flexible response', the Kennedy Administration admitted that it could not long resist a major Soviet advance in Europe without the use of nuclear power.
Chapter 3

The United States Moves to 'War-Avoidance'
The Need for a Theory of Requirements

Kennedy Build-Up

During the early 1960s, the defence policy of the Kennedy Administration was urgently concerned with a number of 'quick-fix' measures designed to build an indestructible deterrent force capable of surviving any kind of attack. America was to stand ready to wage nuclear war from a position of strategic superiority, prepared to deliver either a disarming counterforce first-strike against the USSR or to 'ride-out' a Soviet attack and go on to launch a controlled response. Superiority, invulnerability and flexibility were concepts useful in establishing the overall objectives of U.S. defence policy but they failed to provide planners with criteria for precisely determining the quantity and quality of armaments which the United States required. Indeed, from the end of the Second World War the United States had continually expanded and improved its nuclear arsenal in the absence of any useful measurement of American strategic requirements. The United States lacked a theory of requirements which clearly answered the question: how much military power is 'enough'? (1)

The Emergence of 'Assured Destruction'

Increasingly sceptical about the established strategic canons on superiority and nuclear 'war-waging', the Pentagon substantially revised the American conception of nuclear warfare and U.S. force requirements

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(1) Alain D. Enthoven and K. Wayne Smith, How Much is Enough?, New York: Harper and Row, 1971, pp. 170-171; Also on the Kennedy build-up see below, Section III, Chapter 1, The United States and 'War-Waging': Deterrence Through Usable Force.
during the early and middle 1960s. After many years in which US defence policy had centred around the accomplishment of the traditional missions of offence and defence, American policy was committed to two broad objectives: deterrence through the maintenance of an 'assured destruction' capability and 'damage limiting' in the event of war. (2)

The first objective required the deployment of forces unquestionably capable of achieving a level of destruction unacceptable to any opponent after the United States had absorbed a surprise attack, or, in other words, forces clearly capable of destroying an enemy as a viable society under any circumstances. More precisely, Defence Department analyses persuaded Secretary McNamara that the ability to assure the destruction of between one-fifth and one-quarter of the USSR's population and one-half of her industry in a second strike would effectively deter the Soviet Union from attack. (3)

'Damage limiting' was seen to be intimately linked with the offensive assured destruction objective, closing the traditional divide between offensive and defensive operations. Offensive weapons could limit the damage inflicted upon American cities by destroying enemy delivery systems before launch, while defensive systems could play an assured destruction role by defending America's deterrent forces from enemy attack. Although assured destruction and damage limiting were complementary functions, assured destruction, as the primary guarantor of deterrence, was established as the first priority. Vital as damage limiting might be in wartime,

(2) Before the emergence of the assured destruction - damage limiting doctrine a less than fully successful attempt to measure US force requirements - the 'Hickey Study' was undertaken in 1961. On the 'Hickey Study', see Enthoven and Smith, op. cit., pp. 172-173.

(3) Ibid., pp. 174-175.
it was not regarded as the most effective restraint on Soviet actions. Restraint was best exercised by a demonstrated capability to kill large numbers of Russians and to destroy much of Soviet industry. (4)

'Action - Reaction'

During much of the Kennedy Administration the United States concentrated upon the accumulation of vast quantities of nuclear armaments with little consideration of possible Soviet reactions. However, the assured destruction concept required close attention to the present course and probable future direction of Soviet defence policy. Any Soviet deployment eroding America's assured destruction capability would demand an American response. The Soviet Union was also bound to react to any US action which threatened to degrade its retaliatory capability. The USA and the USSR were therefore said to be linked in an 'action-reaction' relationship in which the wisdom of any proposed deployment by either side had to be considered in the light of the probable reaction of the other. (5)

'Mutual Assured Destruction'

While the initial Kennedy emphasis on strategic superiority and 'war-waging' was soon modified by the emergence of the assured destruction and damage limiting concepts, this modification of American doctrine was itself refashioned during the middle and late 1960s, bringing an intensifying stress on assured destruction and a gradual move away from damage limiting. In the face of a significant increase in the strategic nuclear capabilities of

(4) Enthoven and Smith, op. cit., pp. 174-175.
(5) Ibid., p. 176.
the USSR and the expectation that Soviet strength would continue to expand, during the mid-1960s Secretary McNamara began to express a deepening pessimism about the future of damage limiting, and the value of superiority. Soviet strategic force levels were said to be approaching the point at which the USSR could no longer be denied a massive strike capability, regardless of the size of American forces. The significance of US strategic superiority and the validity of any notion of 'winning' or successfully 'waging' a nuclear war were therefore seriously compromised. Whereas in the past the United States had been thought to require a substantial quantitative advantage over the Soviet Union, primarily to deter, but if need be to 'defeat' the USSR in a thermonuclear conflict, in the later years of the Johnson presidency, a future war appeared likely to develop as an unavoidably disastrous catastrophe, regardless of the level of peacetime deployments, leaving 'strategic parity' and 'stable deterrence' as the only objectives of a 'rational' policy.

The most reliable basis for deterrence was now thought to rest with the careful maintenance of an assured destruction capability by both the United States and the Soviet Union, establishing a relationship of 'Mutual Assured Destruction' (labelled MAD by some of its critics), a relationship demanding mutual recognition of the inevitably disastrous consequences of a nuclear conflict, the necessity of maintaining parity between the superpowers and the establishment of stable deterrence or war-avoidance as the all but exclusive purpose of strategic planning.

The assured destruction principle was originally developed as a measurement of force requirements. It also served as a useful means of resisting pressure from those demanding even higher military budgets.
After the force levels required for assured destruction had been achieved, it was possible to argue that further deployments were at best wasteful and pointless, providing no additional protection, while increasing the economic burden of defence. However, by the late 1960s, assured destruction had developed from a measurement of how much was 'enough' as well as a valuable debating point against those constantly demanding 'more', into a fundamental principle of US strategic doctrine and the basis - in the American view - of the Soviet-American strategic relationship. (6)

Consequences of Mutual Assured Destruction

for U.S. Offensive Strategy

Rejection of First Strike Capability

The development of a declaratory doctrine which centred around 'mutual vulnerability' and strategic parity and included a keen awareness of the action-reaction process, not only required the abandonment of any notion of superiority as an objective of American strategic planning but also specifically demanded the rejection of a first-strike capability. The Defence Secretary advised that an attempt to maintain such a posture would prove tremendously expensive and 'simply unattainable' in view of the USSR's existing strength and potential for future expansion. (7) In order to command a 'full first strike' capability the United States would have to begin a massive expansion of its anti-missile, anti-aircraft and civil defence programmes and even with such an increase 'tens of millions' of Americans would still die. In the Secretary's words: 'The paramount conclusion supported by all our studies is that for any level of force we might practicably build, and even under the most favourable circumstances to us, a nuclear exchange between the United States and the Soviet Union would do enormous damage to both sides'. (8) Rejecting a full first-strike capability, in 1964 the Secretary identified 'a damage-limiting strategy' as the basis of the policy which had found favour within the Pentagon. Under this conception, the United States was to maintain a force:

(8) Ibid.
... large enough to ensure the destruction singly or in combination, of the Soviet Union, Communist China and the Communist satellites as national societies, under the worst possible circumstances of war's outbreak that can be reasonably postulated and, in addition, to destroy their war-making capability so as to limit, to the extent practicable, damage to this country and to our allies. (9)

However, as the Johnson Administration entered its closing years the successful performance of damage limitation appeared increasingly unlikely.

**Shift in Targeting Doctrine**

Also in keeping with the assured destruction doctrine, in February of 1965 Secretary McNamara announced the abandonment of his 1962 counterforce proposal which had been presented as a means of reducing civilian casualties in a future war. The enlarged proportions of the Soviet and American nuclear arsenals now precluded any effective counterforce blow. Furthermore, in the event of war McNamara thought it 'unlikely' that the Soviet Union would spare large population centres. (10)

**Defence and Deterrence : The Decision Against Ballistic Missile Defence**

**Doctrinal Objections**

In addition to ruling out first strike and counterforce strategies, the Mutual Assured Destruction doctrine also influenced US views on ballistic missile defence. As stable deterrence was seen to rest upon the command of a second-strike retaliatory capability by both the United States and the Soviet Union, the deployment of a missile defence system by either side, reducing its opponent's retaliatory capability, was condemned as evidence of first-strike ambitions, warranting a build-up in at least the offensive forces of the undefended party. It, therefore, became the American view

(9) Ibid.

that anti-ballistic missiles were an inherently destabilising factor in the Soviet-American strategic relationship, incompatible with stable deterrence. (11)

The ABM Issue

While an ABM deployment was consistently opposed by successive administrations (until the autumn of 1967), a solution to the problem of missile defence remained a high priority R&D project during the years in which the assured destruction concept evolved. Despite deep scepticism on the part of Secretary McNamara about the wisdom of an ABM deployment, the continuing improvement in American ABM technology prompted the Defence Secretary to initiate a re-examination of the ABM question in 1964. However, President Lyndon Johnson followed his predecessors in placing a hold on missile defence, maintaining the programme at a purely developmental stage. Perhaps the major factor in the Johnson postponement was uncertainty over whether missile defences would prove cost-effective. (12) The cost of a twenty city Nike-X (formerly Nike-Zeus) system was estimated by McNamara at $15 to $17 billion, added to $1 to $2 billion in annual operating costs and $3.5 to $4 billion for a national shelter system. (13) The Defence Department argued that it would make little sense to establish a costly 'point defence' if that deployment was not accomplished by an extensive fall-out shelter programme. (14) The 1964 decision against deployment was

(12) NYT, June 14, 1964, p.72.
(13) NYT, July 24, 1964, p.7.
(14) NYT, June 14, 1964, p.72.
also related to the need for further research into the effectiveness of its radar and missile components and the fear that the development of a major new strategic weapons programme would jeopardise whatever chance existed for reaching an arms limitation agreement with the USSR.

In 1965 intelligence information indicated that the Soviet Union was in the process of installing elaborate missile defences stretching from Leningrad to Moscow. The USSR had already displayed two weapons which were said to have an ABM capability: Griffon and Galosh. It was also anticipated that the Chinese would soon emerge as a nuclear power of some significance. All of these factors prompted still another reconsideration of American ABM policy. While over $2 billion had already been consumed in ABM research and another $400 millions was requested for the fiscal 1966 budget, it was again decided not to install a missile defence system. This latest postponement was perhaps motivated as much by financial as by strategic or technical considerations. With the cost of the Vietnam war rising, the expenditure of an additional $8 billion to $20 billion for Nike-X was not an enticing prospect.

In 1966, the controversy over the anti-missile continued. While the Joint Chiefs of Staff consistently supported immediate Nike-X deployment,


McNamara decided to postpone for yet another year a full scale ABM programme directed against the Soviet Union and also to defer the construction of an anti-Chinese system. The fiscal 1967 budget message included a request for £446 million to advance ABM research but no appropriation for the installation of a missile defence system was proposed.

McNamara’s Objections to ABM Deployment

In 1966 Mr. McNamara based his continued refusal to approve an ABM deployment on a number of factors. The Secretary remained unpersuaded that an ABM system was needed to guarantee the effectiveness of the American deterrent. In McNamara’s words: ‘There is absolutely no question about our capability of penetrating the Soviet defences with both our missiles and our aircraft’. The defence chief also argued that both the USA and the USSR would retain a fully adequate retaliatory force regardless of the measures which either country might adopt in an attempt to stave off the inevitably disastrous consequences of a nuclear attack. The Russians have the technical and economic capacity to prevent us from achieving a posture which could keep our fatalities below some tens of millions’, McNamara said. Any defensive system the United States might choose to deploy the Soviet Union could compensate for by adding to its offensive missile forces and at significantly less expense than the cost of American defences. Even should the United States strike first, the Secretary warned, American dead would number about twenty-five million.

(20) NYT, April 22, 1966, p.1.
(23) NYT, January 26, 1966, p.1
(24) Ibid.; also see NYT, December 27, 1966, p.1 and NYT, December 27, Section IV, p.3.
Mr. McNamara was also influenced to postpone ABM deployment by a considerable degree of uncertainty as to the nature of the Soviet ABM effort. In 1966 the administration believed that the USSR was installing a missile defence system but detailed intelligence as to its extent and effectiveness was lacking. (25) The state of Chinese missile and nuclear warhead technology was also thought to argue against an immediate commitment to missile defence. In the Defence Secretary's view: 'A significant Chinese Communist nuclear threat to the continental United States is not expected to develop earlier than (the) 1975-1980 period.' (26) 'On the basis of our present knowledge of Chinese Communist nuclear progress', the Secretary said, 'no anti-missile deployment decision need be made now. However, the development of the essential components should be pressed forward vigorously'. (27) While no approval was given to even an anti-Chinese defence in 1966, McNamara did concede that a 'light' system directed against the Chinese might one day prove to be necessary. (28) It was also thought a 'light' defence could offer protection against an accidental Soviet ICBM launch. (29)

Doubts over the effectiveness of the Nike-X system further contributed to the 'no deployment' decision. Nike-X had not been fully developed or

(27) Ibid.
(28) Ibid.
tested. Many in the Pentagon felt that more time was needed to study the performance of its component parts (missiles and radars) in operation as an integrated system. There was also the question of uncertain cost estimates, ranging from $3 billion to $40 billion, depending upon the scope of the defensive effort. McNamara thought the cost prohibitive as the Soviet Union could undoubtedly penetrate any defence by increasing the number of ICBMs assigned to key targets. Finally, the Secretary was also convinced that no ABM system would be worth the investment without a massive and costly shelter programme shielding the civilian population from the affects of enemy warheads detonated beyond the range of the Nike-X.

Despite rumours of a Johnson Administration compromise solution on the ABM issue which would mollify both the opponents and supporters of Nike-X, as 1967 opened the 'wait and see' attitude of several years past was maintained. In his fiscal 1968 budget message, the President requested an appropriation of $377 million in standby funds for possible future production of Nike-X. These funds were to be used should it prove impossible to negotiate a 'freeze' on ABM development with the Soviet Union. In the President's words: 'In 1968 we will continue intensive development of Nike-X but take no action now to deploy an anti-ballistic missile

(31) NYT, November 27, 1966, Section IV, p.3.
(33) Ibid.
defence; initiate discussions with the Soviet Union on the limitation of ABM deployments; in the event these discussions prove unsuccessful, we will reconsider our deployment decision'. (36)

The Assured Destruction Measurement in Practice

The development of the assured destruction doctrine provided a more precise measurement of the nation's overall force requirements than had ever been available in the past. The question of how much nuclear strength was 'enough' could now be answered with the assured destruction standard. 'Enough' was that level of force necessary to assure the destruction of one-fifth to one-quarter of the Soviet population and one-half of Soviet industry after the United States had suffered a first-strike.(37)

Under the assured destruction doctrine the process of establishing American force levels at any given time involved an analysis of the Soviet target complex, considering the number, type and location of enemy targets. It was also necessary to determine the quantity and quality of American offensive weapons required to accomplish the destruction of each target type, as well as to estimate the effect of a full-scale Soviet attack on US strategic forces. On the basis of an assessment of the target system to be destroyed, the size and character of weapons needed to achieve its destruction and an analysis of the strategic capabilities of the Soviet Union, it was possible to calculate the level of forces needed to fulfil the demands of assured destruction.(38) However, when actually applied to the problem of US force requirements the assured destruction concept in fact produced capabilities far in excess of those needed to guarantee the destruction of one-fifth to one-quarter of the Soviet population and one-half of Soviet industry. As a result

(38) Ibid., pp.176-178.
of generous estimates of Soviet capabilities and performance levels, as well as a highly conservative assessment of the performance of American forces, by 1968 the United States had amassed a nuclear arsenal capable of destroying perhaps approximately 50% of the USSR's population and some 80% of Soviet industry by 1968. (39)

Yet another feature of the conservative assumptions associated with assured destruction in practice was the projection of US force requirements against a 'greater-than-expected-threat' or, in other words, against the background of maximum Soviet capabilities, exceeding even the upper limit established in the US National Intelligence Estimates. In the event that the 'greater-than-expected-threat' suddenly materialised, the USA was to be prepared, given reasonable lead-time, to act upon any one of several deployment options designed to guarantee America's assured destruction capability, or in other words, the United States was to plan for what was termed 'US force plus options'. (40)

Strategic Force Levels : Ballistic Missiles

Under the assured destruction banner in the middle and late 1960s American nuclear strength continued to grow, although the expansion of US missile forces was to be halted at about 1,000 launchers. In the autumn of 1964 President Johnson reiterated his pledge to 'keep America first' in strategic power. (41) The fiscal 1965 defence budget, nevertheless, marked a slackening in the nuclear build-up begun during the early 1960s. Spending on strategic

(39) Enthoven and Smith, op. cit., p.178.
(41) NYT, October 16, 1964, p.25.
arms amounted to some 10% of the defence budget in FY 1965, as opposed to 18% in FY 1962. Speaking of land-based missiles, Secretary McNamara explained: 'We now have more than 800 fully armed, dependable ICBMs with almost all in protected launching silos'. It was announced in early 1964 that the liquid-fuelled Atlas would be retired. However, it was also revealed that a new improved version of the Minuteman missile, with increased range (increased from 6,300 miles to approximately 9,000 miles) and versatility, the Minuteman II, was to be deployed. The US Air Force campaigned for the addition of 150 Minuteman II missiles to the 950 Minutemen already planned, but in the end settled for only fifty of the new weapons.

By mid-1964 the American Polaris submarine fleet totalled sixteen ships carrying 256 missiles with a 1,500 mile range. As the administration had already won Congressional approval for a force of forty-one submarines, no proposals for further expansion of the Polaris fleet were included in the fiscal 1965 proposals. However, the Deputy Defence Secretary, Cyrus R. Vance spoke of plans to improve the Polaris A-3 missile. These improvements likely included Multiple Re-entry Vehicles (MRV), although the development of MRV was the subject of very little, if any, public discussion at this time. Mr. Vance pointed out: 'Since 1961 there has been a 150% increase in the number of nuclear warheads and a 200% increase in the total-megatonnage in our strategic forces'.

(42) NYT, March 21, 1965, Section VIII, p.3.
(43) NYT, August 28, 1964, p.16.
(44) NYT, January 22, 1964, p.1.
(45) NYT, January 22, 1964, p.1.
(46) NYT, August 28, 1964, p.16.
(48) NYT, August 28, 1964, p.16.
In 1965 Secretary McNamara expressed confidence in the future of America's missile advantage, saying of the Russians: '... there is no indication that they are in a race at this time ... their rate of expansion today is not such as to allow them to equal, much less exceed our own 1970 force'. (49) In the previous year Deputy Defence Secretary Vance had promised: 'In nuclear weapons, both strategic and tactical, no nation approaches us now and no nation will match us in the future'. (50)

In the defence budget for FY 1966 the declining level of defence spending clearly affected strategic forces. The White House requested only $4.5 billion for nuclear forces as opposed to approximately $9 billion in 1962. (51) While the Defence Department fully intended to continue the expansion of US nuclear strength, it was planned to do so at a much reduced rate. The fiscal 1966 budget proposed the retirement of all Titan I and Atlas missiles. They were to be replaced by an additional squadron of Minutemen, bringing the Air Force to a total of sixteen squadrons, approaching the 1,000 missile goal set for Minuteman. (52) The defence appropriations for 1966 also projected a force of 608 Polaris missiles aboard thirty-eight submarines by the middle of the year. (53) Just before the submission of the FY 1966 budget, President Johnson also announced plans for the new Poseidon SLBM (formerly known as the B-3 version of Polaris), a system said to promise eight times the 'kill capacity' of the Polaris A-3. (54)

(49) 'Interview with Robert McNamara', US News and World Report, April, 1965, p.52.
(50) NYT, August 28, 1964, p.16.
(52) Ibid.
(53) NYT, January 31, 1966, Section IV, p.3.
The administration's FY 1967 budget revealed plans for the 'initial procurement' of the improved land-based missile, the Minuteman III, about which little was publicly known.\(^{(55)}\) American missile-firing submarine force remained at thirty-eight Polaris submarines armed with 608 SLBMs; however the defence budget requested additional A-3 missiles. Rather than react to the Soviet build-up in defensive strength by approving an ABM deployment, Secretary McNamara recommended the deployment of Poseidon, a weapon for which Congress had approved developmental funds earlier in the year.\(^{(56)}\)

Defence planning for FY 1968 reflected America's shift from its former concern with overwhelming quantitative superiority. No further additions to the nation's ICBM force were planned.\(^{(57)}\) However, research was conducted on the possible production of a new long-range missile - Strat-X.\(^{(58)}\) Further, the new Minuteman III, still under development, was to be fitted with MIRV, a development which was officially revealed for the first time in 1967. An additional $1 billion was requested to produce and deploy the Poseidon missile.\(^{(59)}\)

Multiple Warheads

Although the Johnson Administration fixed an upper limit for the number of US launchers and remained opposed to an ABM deployment (until September of 1967), the Secretary of Defence proposed very important qualitative improvements in US offensive capabilities during the 1960s. These improvements were described

\(^{(56)}\) NYT, November 27, 1966, Section IV, p.3.  
\(^{(57)}\) NYT, January 25, 1967, p.17.  
\(^{(58)}\) NYT, December 3, 1967, Section VI, p.55.  
as necessary to assure the effectiveness of the American deterrent force against Soviet missile defences. In 1966 measures designed to maintain the credibility of the US deterrent included a decision to produce and deploy the **Poseidon** missile. Poseidon was to deliver twice the payload of **Polaris**, as well as to mount what were said to be numerous penetration aids. (60) During the same year the deployment of the new **Minuteman** type was also approved. **Minuteman III** was also said to be equipped with penetration aids. (61) Although these 'aids' were not publicly discussed, **Poseidon** and **Minuteman III** were in fact to benefit from a highly significant advance in warhead technology - the development of **Multiple Independently targeted Re-entry Vehicle**, or MIRV.

The eventual deployment of MIRV in 1971 was the product of a long period of research begun during the 1950s. The technological origins of the American multiple warhead capability cannot be traced to any single development decision or research project. The multiple warhead was, in fact, the product of several different lines of civilian and military research. In 1957, following the launch of **Sputnik I**, the Re-entry Body Identification Group within the Office of the Secretary of Defence was ordered to consider whether the design of American offensive missiles should allow for the future development of ballistic missile defences. In 1958 the group warned of the technical feasibility of missile defence and discussed multiple warheads as a means by which the strategic advantages of offensive systems might be retained.

At approximately the same time, BAMBI or Ballistic Missile Intercept systems were under consideration. BAMBI involved the detection and interception of enemy ICBMs soon after their launch through the use of multiple satellites. By 1960 the United States had achieved its first multiple satellite launch; orbiting a Transit IIIA satellite and a solar radiation satellite. In the following year three satellites were orbited by a single missile and in 1963 a multiple satellite launch placed two satellites into two different orbits. During the same period the development of orbital nuclear weapons was also under study. Although orbital weapons were never produced, several designs emerged involving the use of a 'bus' or Post Boost Control System (PBCS) not unlike the vehicle later developed for MIRV. In 1964 the Titan III missile and Transtage PBCS achieved their first successful launch. Two years later the United States placed eight different satellites into eight different orbits. Seven of these were part of the Initial Defence Communication Satellite Programme, while the eighth was charged with a gravitational experiment. Other projects which generated MIRV related capabilities included the Sequential Payload Delivery System or SPD which was used in 1966 to fire several devices as test targets for the American ABM.

In addition to a number of projects indirectly related to the technology of multiple warheads, there were, of course, several armed service programmes specifically designed to develop the capability to deliver several warheads with a single launcher, including the US Navy's Polaris A-2, armed with a multiple warhead or 'claw', and
the Poseidon (A-3) missile equipped with MIRV, as well as the US Air Force Minuteman III – MIRV project. (62)

In the mid-1960s, American research into multiple warheads resulted in the first deployment of a Multiple Re-entry Vehicle or MRV aboard the Polaris A-3 missile. (63) Tipped with a MRV, the A-3 greatly complicated the problem of missile defence by simultaneously launching three nuclear warheads against a single target. However, the distance separating the MRV warheads after booster burn out was thought insufficient to prevent their destruction by an advanced Soviet ABM. Further, the three warheads could not be more widely dispersed without detonating the A-3's payload over an area greater than that of most of its assigned targets. (64)

The answer to MRV's deficiencies came with the development of MIRV, arming a single Poseidon or Minuteman III with from three to fourteen re-entry vehicles (rv). Each of these rv's was to be independently launched in the direction of its assigned target from a Post Boost Control System (PBCS) following successive course adjustments. MIRV promised to increase the effectiveness of US missile forces without any expansion in the number of launchers. While the deployment of MIRV was attacked within the United States as posing a potential first-strike threat to the Soviet Union, Secretary McNamara supported MIRV as a means of unquestionably maintaining the advantage of offensive weapons over defensive systems. MIRV offered the means by which the United States could limit the

(63) Estimated deployment dated for the A-3 MRV appear to range from 1964 to 1968, see Lapp, op. cit., p.17; Bottome, op. cit., pp.129, 130; The Origins of MIRV, op. cit., p.9.
(64) Ibid., pp.3-9.
size of its offensive force, while entirely eliminating the need for an ABM system. (65)

Strategic Aviation

The history of US bomber forces in this period reveals a steady decline in aircraft numbers. In 1962, the year in which bomber reductions began, the Strategic Air Command (SAC) disposed of about 615 B-52 bombers, eighty B-58s and 810 B-47 medium bombers, making a total of 1,505 bombers. (66) By 1964 the B-47 force had been reduced and the total number of US bomber aircraft had fallen to 1,100 of which 540 long-range aircraft were constantly on alert. (67)

However, in 1964 Secretary McNamara discussed three new Mark-3 aircraft designs which could be developed as long-range bombers should the need arise. These included a version of the Lockheed A-11, labelled the SR-71, the North American B-70 and the TFX (Plll) fighter bomber. (68)

By 1965 SAC's bomber strength amounted to some 850 aircraft, a force which still retained a number of B-47s, along with some 600 B-52s and eighty B-58s. (69) Pentagon submissions for FY 1966 announced plans for the retirement of two squadrons of the oldest B-52s and the entire remaining force of B-47s. (70) It was decided to pare the SAC force of 680 long-range bombers by two-thirds


(68) NYT, April 15, 1964, p.1; August 28, 1964, p.16, October 16, 1964, p.25.
(70) NYT, December 9, 1965, p.1; December 12, 1965, p.5.
bringing the total force of G and H model B-52s to about 250 by 1971. (71) America's B-58 aircraft were to be retired by that time. In part as a response to an expected wave of criticism over bomber reductions, the Pentagon announced plans to produce a bomber version of the supersonic F-111 fighter bomber, the FB-111, designed to serve as a strategic and tactical bomber. Individual versions were to be developed for the Air Force and the Navy, a third variety, the RF-111A reconnaissance aircraft, was also planned. (72)

By the end of the decade the United States was to command some 465 bombers. Of these, 210 were to be FB-111s. (73) The administration also advised that the FB-111 might be called upon to serve only as an interim aircraft, bridging the gap between the retirement of the B-52 and the B-58 and the development of a new 'follow-on' bomber. (74) The fiscal 1966 budget allotted funds for research into a new generation of bombers to be produced in the event that changes in the strategic or technological environment should require the deployment of a 'follow-on' aircraft. (75)

By 1966 all B-47s had been removed from service. At the end of the fiscal year the total bomber force of 680 aircraft included 345 of the older B-52 planes, G thru F models, 255 of the newer model G thru H types and eighty B-58s. In 1966 McNamara again discussed plans for the retirement of 345 B-52s in the G thru F series over a five year period, and the elimination of all B-58s by fiscal year 1971. The Secretary intended to retain 255 of the newer B-52s after modernisation 'at least through 1975', added to

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(73) Ibid.
(74) NYT, December 12, 1965, p.5.
210 FB-111 bombers, making a total of 465 strategic aircraft by FY 1971. As a further indication of the bombers' narrowing role in US strategy, McNamara announced a reduction in the number of planes maintained on airborne alert. (76)

As for the development of a new heavy bomber to succeed the later model B-52s, the Air Force supported the construction of an Advanced Manned Strategic Aircraft, or AMSA. However, the Defence Secretary remained uncommitted to AMSA, opposing the addition of $11.8 million to the $11 million already provided in the FY 1967 budget for contract formulation of the AMSA project in the fear that it might lead to the investment of billions of dollars of developmental funds. (77) McNamara regarded full-scale development as premature, saying: 'It is not at all clear that we should develop any airplane to replace the B-52 Gs and Hs and if such an airplane were to be developed, it is not clear what its specifications should be'. (78) He estimated that the cost of these perhaps unnecessary aircraft might amount to $10 billion to $12 billion over ten years. The FY 1967 budget did contain a request for funds to support the initial procurement of the FB-111 bomber. (79) In the first months of calendar year 1967 the US long-range bomber force included some 595 aircraft. (80)

(77) NYT, June 6, 1966, p.1.
(78) Ibid.
Debate over Offensive Weapons Mix:

Missile v Bomber

The dramatic reduction in the number of American strategic aircraft during the 1960s met with vocal opposition within the United States. (81) In response to criticism of administration policy on strategic aviation, McNamara argued that whatever the virtues of bombers, they were not needed to maintain the American deterrent: 'Without any use of the bomber forces the strategic missile forces recommended for the 1967-1971 period would provide substantially more force than is required for an "assured destruction" capability against both the Soviet Union and Communist China simultaneously.' (82) McNamara spoke of strategic aircraft as supplementary weapons, while ballistic missiles constituted the 'primary' weapon. (83) The defence chief also asserted that the strategic bombers were no longer cost effective, (84) as well as being seriously vulnerable to attack. (85) However, it was repeatedly stated that the administration did not intend to remove all long-range bombers from service. (86) Bombers retained a useful role within the US strategic 'triad' and would continue to serve as 'insurance' or as a 'hedge' against 'the possibility that our missile forces may turn out to be less reliable and may suffer greater pre-launch attrition than currently estimated'. (87)

(82) NYT, June 6, 1966, p.1.
(86) NYT, October 12, 1964, p.14; December 12, 1965, p.5.
(87) NYT, June 6, 1966, p.1.
General Purpose Forces

During the middle and late 1960s, the objectives of American policy affecting the nation's general purpose forces remained substantially those which had guided their development earlier in the decade. The United States continued to rely upon strategic nuclear power as the primary guarantor of its security. Nevertheless, a major conventional capability was still thought to be essential if the United States was to meet a wide range of potential challenges below the full scale nuclear level. In 1966 Robert McNamara said: 'Massive retaliation to a Soviet nuclear strike against us is, in my opinion, the only proper response'. However, America had increased its conventional strength in order to: 'take care of the situation in which massive retaliation is not in our interest - at least as an initial response'.

US defence planning also continued to reflect the long established commitment to prepare for the conduct of major non-nuclear conflicts outside the European theatre. More specifically US general purpose forces were charged with maintaining the capability to deal with a major war in Asia and a more limited emergency in Latin America or elsewhere, while simultaneously resisting a Soviet advance against NATO.

During the years 1960-1964, defence spending rose from $43 billion to more than $51 billion. This increase financed a substantial improvement in conventional capabilities under the

doctrine of 'flexible response', as well as a massive build-up in America's strategic nuclear forces. While policy objectives remained largely unchanged under President Johnson, it was the intention of the Johnson Administration to reduce defence spending significantly following the major investment of the Kennedy years. However, the effort to constrain defence expenditures was largely directed to the nation's strategic nuclear forces in the early Johnson years and was, in any case, soon entirely upset by America's deepening involvement in Vietnam. Proposals for defence spending in FY 1965 began the process of slowing the Kennedy programme of expansion with the announcement of a $1.1 billion cut in spending. The consequence for the nation's conventional forces was a reduction in procurement, and a slowing in Army and Navy modernisation.

In 1965 defence spending was said to have reached a plateau from which it was possible to maintain and improve the nation's defences with reduced expenditures. These reductions, the administration advised, were made possible by the completion of the US military build-up, the retirement of less economical forces and as a Pentagon programme of cost-cutting. While the absolute level of expenditure was expected to rise, the percentage of the GNP devoted to armaments was to decline. The funds requested for 1966, set at $49 billion, was $300 million less than the $51.2 billion appropriated in fiscal 1964, the peak of the Kennedy-Johnson spending programme. Along with reductions in spending

(91) NYT, January 22, 1964, p.1.
(93) NYT, January 31, 1965, Section IV, p.3.
military manpower levels were also lowered by the closure of military bases, the disbanding of some bomber and missile squadrons and the dissolution of the Army's 15,000 man Experimental Air Assault Division. (94) The total number of men in uniform was to be cut by 16,000, making a total of 2,640,000. (95) By June of 1966, the armed forces were to dispose of some 45,000 fewer servicemen than in mid-1964. (96)

While fiscal 1966 was to be a year of defence cuts, President Johnson announced proposals intended to improve conventional mobility and flexibility. (97) Funds allotted to general purpose forces were to increase by about $1 billion for a total of $19 billion. This expenditure was to maintain sixteen Army combat divisions. The Air Force was to increase its tactical air squadrons from 112 at the close of fiscal 1964 to 119 by the end of fiscal 1966. (98) Work on the C-5A transport was also to begin. (99) The Navy was to expand from 880 to 889 ships, with much of this increase going to anti-submarine ships and support vessels. The existing force of fifteen attack-carriers and nine anti-submarine carriers was to be maintained. Sixty-four ships were to be built or modernised, including Midway-class carriers. However, unlike the previous four defence budgets, no funds were requested for a major new warship. (100)

(95) Ibid.
(96) NYT, January 31, 1965, Section IV, p.3.
(100) NYT, January 26, 1965, p.1.
In 1966 an effort was made to improve America's ability to transport men and material rapidly from the United States to crisis points abroad. In March of 1966 Major General James C. Sherrill was appointed to the new position of Special Assistant to the Joint Chiefs of Staff for Strategic Mobility. The deployment of a fleet of fifteen to twenty Fast Deployment Logistic ships (FDL) was planned, as well as the production of the Lockheed C-5A jet cargo transport aircraft. However, fearing that the increased capability provided by FDL ships would tempt the administration to involve itself in limited conflicts, the Congress refused to approve the project.

The Johnson defence estimates for FY 1967 provided for a major increase in the number of service men. The American military was to total 3,093,000 troops by June of 1969, marking a twelve-year high point in manpower levels. Of this total, the Army was to command 1,233,693 men, the Air Force 853,359 and the Navy and Marine Corps 278,184 troops. As for the nation's reserve strength, the President supported a plan for the merger of Army Reserves which the Congress opposed. The administration announced that Army Reserves would be reduced by 108,500 men for a total of 580,000 men, as compared to the 700,000 reserves total favoured by the Congress.

The FY 1967 budget also contained President Johnson's decision to authorise the building of a second nuclear powered aircraft carrier joining the USS Enterprise, launched in 1961. Against

(101) NYT, June 24, 1966, p.12.
(103) Ibid.
some opposition, the Navy had finally succeeded in winning its campaign for a second carrier, powered by a new two-reactor system as contrasted with the four reactors aboard the Enterprise. (104)

The national budget for FY 1968 included no major expansion of America's Vietnam effort in a defence budget of $73.1 billion. The manpower total was to climb from 3,334,000 to 3,464,000 by June of 1968, making a rise of only 130,000 troops. This compared with a largely Vietnam inspired rise of 681,000 men in the period June 1965 to January 1967. The administration discussed a levelling off of American troops committed to Vietnam at approximately 500,000 by June of 1968. In April of 1967, General Wheeler told the Congress of the administration's plans to withdraw two Army brigades and four Air Force Fighter-bomber squadrons from Germany in 1968, a reduction which Secretary of State Dean Rusk declared would 'not in any way significantly reduce' NATO's combat readiness. (105) The Secretary noted that the United States would continue to maintain five and one-third divisions in Europe, 'plus massive nuclear capabilities'. (106) The troops withdrawn from NATO were not to serve in Vietnam and could rapidly return to Europe if necessary.

The apparent improvement in US conventional capabilities in Europe, as well as in the overall NATO-Warsaw Pact balance achieved during the 1960s, was not only the result of the positive steps taken to strengthen American general purpose forces, but was also the consequence of conclusions drawn from a lengthy Pentagon

(106) Ibid.
analysis of the east-west conventional balance. After many years in which the massive conventional superiority of the USSR had been accepted as one of the immutable realities of the Soviet-American relationship, by the late 1960s Pentagon analyses had demonstrated that NATO and the Warsaw Pact commanded roughly equivalent capabilities. (107)


Development of a Theory of Requirements

The emergence of a theory of requirements in the doctrine of assured destruction cannot be described as a direct response to the actions of the Soviet Union. The development of the assured destruction - damage limiting standard was instead motivated by the administration's need for some means of determining US strategic requirements in a time of already great and still growing American superiority. The development of assured destruction was also encouraged by the administration's desire to resist pressures from those individuals and interests relentlessly demanding additional deployments. Equipped with a clearly defined formulation of American requirements, the Secretary of Defence was better able to demonstrate the adequacy of US force levels. Nevertheless, it might be noted as a matter of some significance, at least in the development of American declaratory doctrine, that the application of the assured destruction measurement to strategic planning specifically required careful assessment of possible Soviet reactions.

(107) Enthoven and Smith, op. cit., pp.131-164.
to American deployments in the calculations of US force levels, a requirement which earlier definitions of strategic effectiveness did not include.(108)

While the first appearance of a theory of requirements in the United States cannot be credited to Soviet actions, the motivation for the subsequent emphasis on assured destruction at the expense of damage limiting and the rise of Massive Assured Destruction can be charged in large part to the expansion of Soviet forces begun in 1962, as well as to American projection of Soviet force levels into the late 1960s. It was the improvement in the USSR's strategic position already achieved by the mid-1960s and estimates of the Soviet Union's potential for further expansion which persuaded US analysts that highly effective damage limitations was no longer possible and superiority no longer meaningful, leaving stable deterrence and 'war-avoidance' as the only practicable objectives of strategic planning. With the possibility of successful American war-waging largely eliminated by the growing strength of the Soviet Union, the United States turned to a doctrine of mutual vulnerability based upon the careful maintenance of strategic parity between the superpowers. This emphasis upon mutuality further elevated the declaratory significance of the still recently formulated action-reaction concept. The United States was not only required to react to any Soviet action which threatened to compromise America's second-strike force, but was also required to concede an assured destruction capability to the USSR. The Soviet Union was

(108) Enthoven and Smith, op. cit., p.195.
similarly obliged to restrain its deployments in the interests of America's retaliatory capability.

Each of the doctrinal consequences of the establishment of Mutual Assured Destruction as the centre-piece of American doctrine can in some measure be associated with the rising level of Soviet nuclear forces. In addition to requiring the abandonment of superiority, the improvement in the Soviet strategic posture moved the United States to forswear a first-strike capability, as well as the capacity to disarm the USSR with a counterforce blow. An attempt to retain these capabilities in the future would succeed only in accumulating a crushing burden of defence spending, while failing to save the United States from the terrible affects of a Soviet nuclear strike.

**Ballistic Missile Defence**

The consistent administration opposition to the deployment of ballistic missile defences until September of 1967 was the product of several factors, some of which were related, at least indirectly, to the USSR and others of which were traceable to internal, non-responsive sources. Among the influences associated with the USSR was the administration judgement that Soviet technological and economic resources were such as to allow the Soviet Union to compensate for any American ABM deployments with increased offensive strength, rendering any US missile defence effort entirely futile. A considerable degree of uncertainty as to the deployment plans of the USSR - offensive and defensive - was also offered in argument against a final go-ahead for the Nike-X system, as was the assessment that current Soviet force levels, had not yet reached the
point at which the Minuteman deterrent required any active defence in order to assure its credibility. Finally, the danger that an American commitment to ballistic missile defence would effectively rule out any possibility of arms limitation talks with the USSR was also presented in evidence against an ABM deployment.

However, the decision against deployment was also heavily influenced by a number of non-responsive factors. The ABM was opposed by the American view that offensive systems retained a very significant advantage over defensive weapons. After many years of research the administration was not persuaded that even a major Nike-X deployment would prove effective against a large scale ballistic missile attack on American cities. In view of the still significant technological limitations affecting defensive weapons, any serious threat to the credibility of the US deterrent was to be met by an increase in offensive strength. All doubts as to the continuing advantage of the offence was thought to have been eliminated by the prospect of large numbers of MIRVs fixed atop the new Poseidon and Minuteman III missiles. The case against the ABM was also supported by the unacceptably large expenditure which a heavy anti-city defence would have required, added to the extensive programme of fall-out shelter construction which was said to be an essential part of any defensive effort. As for the much more limited protection required to shield US cities against a future Chinese assault, the state of Chinese missile-nuclear capabilities were thought to pose no immediate threat.

Finally, US opposition to missile defence in part represented a 'response' to the requirements of the American doctrine of Mutual
Assured Destruction which established mutual vulnerability to offensive systems at the heart of the US deterrence philosophy. Any deployment by either the USA or the USSR which threatened to compromise the second-strike capability of the other side seriously undermined stable deterrence and dangerously violated the 'rules' governing the Soviet-American strategic relationship as defined within the Pentagon.

**Assured Destruction in Practice**

The practical application of the assured destruction concept to the problem of strategic planning produced force levels which were neither sensitively responsive to Soviet actions nor even sharply constrained by the quantitative standards of the assured destruction doctrine. While certainly taking note of the USSR's existing capabilities, as well as Soviet weapons systems under development, the calculation of American requirements was also strongly influenced by markedly generous estimates of Soviet weapons performance and pessimistic assessments of American performance levels. Consideration was also given to such contingencies as the sudden emergence of a 'greater-than-expected-threat'.

Admittedly, spending on strategic nuclear systems was reduced during the later half of the 1960s and the growth in the number of ballistic missiles was halted, a decision affected to some extent by the perception of Soviet strategic potential. However, despite the expenditure cuts, the ceiling on the level of US missile forces and increasing Soviet strength, by 1968 uncertainty as to Soviet intentions and the Pentagon's highly conservative planning assumption resulted
in strategic capabilities which far exceeded the requirements of the assured destruction mission. Indeed, the quantity of armaments amassed under the banner of a strategic doctrine officially committed to war-avoidance and the quality of the technological improvements (stressing increased accuracy and targeting capability) introduced into strategic forces supposedly assigned to a counter-city mission have prompted speculation as to the degree to which the United States had in fact shifted to a war-avoidance and counter-city emphasis during the later half of the 1960s. (109)

The Development of Multiple Warheads

A review of the factors which encouraged the United States to undertake the development of multiple warheads clearly does not lead to the conclusion that the MRV and MLRV research efforts were begun in response to Soviet actions. Particularly in the early years of multiple warhead development and especially with regard to the origins of MRV, little or no responsibility for the initiation of the programme can be attached to the Soviet Union. The concern for the ability of American offensive forces to reach their targets was originally prompted by US research into the design of strategic weapons systems. The subsequent development of a multiple warhead capability was the product of several technological strains which almost unwittingly combined to demonstrate the feasibility of the multiple warhead concept. The American counterforce doctrine also encouraged the United States to consider methods by which a very high proportion of an expanding Soviet target complex could be effectively

and economically destroyed. Perhaps the major Soviet contribution to the approval of MRV and MIRV research in the United States was the demonstration of a sophisticated technological capability which provided the basis for a good deal of 'worst-case' speculation within the Pentagon. Indeed, Secretary McNamara spoke of the Poseidon launcher in particular as an aspect of US preparations for the 'greater-than-expected' threat. McNamara said:

To hedge against the possibility of ... a greater-than-expected threat, we now propose to accelerate the development of the Poseidon missile ... and move forward on the development of new penetration aids. (110)

**Multiple Warhead Deployment**

The United States deployed its first multiple warheads atop the Polaris A-3 missile some time during the mid-1960s. By 1966 the Johnson Administration had approved the deployment of MIRV. The motivations behind the deployment of the A-3 MRV and the MIRV deployment decisions were similar to those which originally stimulated multiple warhead research and do not lead to the conclusion that either the actual deployment of MRV or the decisions affecting MIRV were largely the consequence of Soviet actions. Among the most significant stimuli for MRV deployment was the success of the American R & D programme. During the first half of the 1960s it became clear that the US Navy's A-3 MRV represented a workable design which would be highly useful for expanding targeting capabilities. If the earliest estimated deployment date is correct (1964), the state of Soviet ABM

(110) Newhouse, op. cit., p. 72.
development cannot be regarded as a powerful motivation for MRV
deployment on anything but a 'worst-case' basis. The deployment of
MRV was also advanced by the Pentagon's desire to retain a counter-
force capability of some kind, an objective which required the
ability to strike a large percentage of the total number of Soviet
targets.

As with the deployment of MRV, the decision to deploy MIRV
was much advanced by the momentum of technological development.
By 1966 many of the technical problems involved in producing
independently targeted re-entry vehicles had been solved and
substantial resources had already been invested not only in MIRV
itself, but also in two new launchers, Poseidon and Minuteman III.
Driven forward by an enviable progression of technological success,
the eventual decision to deploy the new system has been described
as the product of the 'ripening plum' process of weapons acquisition
in which a system need only demonstrate its technical feasibility in
order to win both deployment approval and a strategic mission.(112)

While Secretary McNamara gradually moved American doctrine from
a war-waging emphasis to a concentration on war-avoidance, US doctrine
nevertheless, retained a counterforce element which required an
expansion in targeting capabilities. It was the desire to increase
this capability, reinforced by the growth of the Soviet target complex,
which, according to Dr. John Foster, Director of Defence Research
and Engineering at the Department of Defence, originally inspired
MIRV development. (113) This strategic objective, established by the
United States for itself, also contributed to the MIRV deployment

(112) Elizabeth Young, A Farewell to Arms Control:
(113) Lapp, op. cit., p.21.
decision in 1966.

Yet another factor which promoted MIRV deployment was Secretary McNamara's determination to resist pressures from those urging either a major expansion in the number of America's offensive missiles or the deployment of a missile defence system as a 'response' to the growth of Soviet offensive strength and the development of a Soviet ABM. The defence chief regarded US force levels in the mid-1960s as more than fully adequate to assure American security, requiring no additional offensive or defensive reinforcement. Further, a massive increase in US ICBM and SLBM strength or a heavy ABM deployment could not have been achieved without significantly increasing the burden of defence spending. Although Secretary McNamara frequently asserted that the US strategic arsenal was already sufficient for deterrent purposes, the relatively inexpensive and technologically sound MIRV offered a highly useful bargaining counter against those demanding additional offensive launchers or an ABM capability. Without vastly expanding US nuclear forces and unhinging the Soviet-American strategic relationship, as understood in Washington, MIRV promised to bolster the effectiveness of assured destruction, indisputably confounding any Soviet attempt to reduce the penetrability of US ICBMs. (114)

Even after acknowledging the dominant role of non-responsive factors in prompting the decision to deploy MIRV, it is perhaps going too far to attribute the MIRV deployment decisions entirely to 'ripening' technological 'plums', along with the requirements of America's counterforce doctrine and the internal pressures upon the

Defence Secretary to expand US strategic capabilities. While Soviet ABM development could have played only very little if any part in originally inspiring MIRV development, by 1966 the USSR had emplaced the Tallin line near Leningrad, a system which was thought by at least some analysts to have an ABM capability. They had also begun the deployment of the Galosh ABM around Moscow. Although Dr. John Foster made clear in 1968 that the MIRV programme was not initiated by Pentagon concern over Soviet missile defences, the decision to deploy MIRV several years later was to some degree affected by hard intelligence confirming the emplacement of Soviet ABMs, added to a considerable margin of uncertainty as to the extent of the USSR's ABM deployment plans. However, while allowing for the affect of Soviet ABM development upon the MIRV programme, an overall assessment of the factors which brought the Johnson Administration to approve their deployment in 1966 must assign the dominant role in the decision making process to internal, non-responsive influences.

**Strategic Aviation**

The role and status of strategic aviation during this period experienced major change, a modification which had little or nothing to do with the actions and policy of the Soviet Union. The gradual reassignment of long-range air power to only a supplementary mission was the result of the independent American judgement that the ballistic missile had proven itself to be a far superior weapon system by almost every performance standard.

The decision to retain a bomber force of reduced size was

(115) Newhouse, *op. cit.*, pp. 64-65, 73-75.
also the product of influences unrelated to Soviet actions. A number of bombers were to remain in service as a hedge against the possibility that missile performance levels under combat conditions had been overestimated and as a safeguard against the possibility that the strike capability of the Soviet Union had been inaccurately assessed. The preservation of a long-range air arm was also assisted by the well established American view that the maintenance of an unquestionably invulnerable deterrent force was best assured by a mix or 'triad' of delivery systems: ICBMs, SLBMs and strategic bombers. Whatever the objective virtues of this tradition, its retention within American doctrine received vigorous support from the US Air Force and air power advocates within Congress. (116)

General Purpose Forces

US general purpose forces in this period continued to be affected by a number of factors of which the Soviet 'threat' was only one. During the Johnson presidency, as throughout most of the post-war period, the levels of American conventional strength were very significantly influenced by the wide ranging alliance commitments of the United States and the consequent need to prepare for conflicts other than a direct superpower confrontation. Indeed, the increase in US conventional strength achieved in this period was motivated, not by any direct Soviet challenge but by the deepening American involvement in Indo-China.

With regard to the role of US general purpose forces within the Soviet-American context, the administration retained the desire to command 'flexible' military capabilities, preparing the United States to resist any Soviet advance below the level of a full scale war. However, increasingly sophisticated analyses of the relative positions of NATO and the Warsaw Pact revealed as very substantially inaccurate the often unquestioned assumption of a massive Soviet advantage in conventional capabilities which had inspired a major 'responsive' build-up in US general purpose forces during the first half of the 1960s.

The American Deterrence Concept and Action-Reaction in the Late 1960s

The origins of the first stage in the American 'cross-over' to war-avoidance, the emergence of assured destruction, are to be found in the strategic planning and domestic political problems of Secretary McNamara and his associates. However, the motivation for the further refashioning of US declaratory doctrine, bringing the United States to Massive Assured Destruction during the middle and late 1960s, can be traced to the expansion of Soviet strategic capabilities begun by Mr. Khrushchev and continued by his successors. The evidence of the USSR's military, technological and economic potential, as well as its demonstrated intention to acquire major strategic forces, strongly urged the United States to re-examine its commitment to war-waging, indeed war-winning, and encouraged an awareness of the action-reaction phenomenon. However, while the increase in Soviet strength persuaded the Secretary of Defence and
many of his colleagues that American doctrine required revision, the character of the revised doctrine which followed upon that conviction was in no sense fated by the actions of the Soviet Union to take the MAD form. The acceptance of MAD was neither dictated by the particular course of Soviet policy, nor an inevitable development in the relationship of any two nuclear powers of roughly equivalent strength.

Although some analysts appeared to believe that the American doctrine of the late 1960s represented a kind of irrefutable strategic truth which all rational observers would eventually be compelled to accept by the nature of modern weapons technology and the 'realities' of the Soviet-American relationship,\(^{117}\) the Soviet Union firmly rejected Massive Assured Destruction and its

corollaries.\(^{(118)}\)

Rather than representing a direct reaction to Soviet action or an expression of wholly objective strategic truth, the adoption of MAD and its associated undertakings on force levels, targeting and missile defence, was the result of a distinctively American assessment of the strategic implications of Soviet-American nuclear parity and the nature and requirements of deterrence.

Declaratory issues aside, the development of US policy affecting strategic force levels during this period clearly reflected the influence of factors other than the actions of the Soviet Union. While American declaratory doctrine established assured destruction as the measurement of its force requirements, the United States continued the quantitative and qualitative development of a nuclear arsenal which reached force levels far beyond those required by its own standard of strategic effectiveness. The force levels attained by the late 1960s were determined not by Soviet actions but largely by the highly conservative assumptions underlying American strategic planning,

'Predicting Arms Race Behaviour', \textit{Future}, October 1974, pp.380-388; and by the same author, 'The Racing }\

conservatism resulting from uncertainty as to Soviet capabilities and deployment intentions, as well as some degree of doubt as to the performance of American weapons systems.

The US nuclear arsenal was also shaped by the affects of technological development, domestic politics and bureaucratic pressures as was illustrated by the course of the multiple warhead programme. Despite much public discussion of the danger posed by the action-reaction process to the future of the Soviet-American deterrence relationship, the Pentagon approved MIRV deployment, an action likely to alarm Soviet planners. MIRV was, nevertheless, driven through to the deployment stage by the momentum of technological development and the Defence Secretary's need to combat those domestic critics arguing for deployments which were thought to involve even greater risks of arms race escalation and which would certainly have imposed far heavier economic burdens with less assurance of operational effectiveness.
Chapter 4

The Soviet Union Moves to 'War-Waging'
Soviet Strategy Moves Full Circle

During the early post-Stalin period Premier G.M. Malenkov asserted that the development of nuclear weapons had fundamentally changed the nature of warfare. Their enormous destructive power made another great war improbable and the maintenance of large armed forces unnecessary. Soviet security could therefore be adequately assured by relatively low force levels, permitting a major reduction in defence spending and heavy industrial investment. At the time of the Malenkov-Khrushchev leadership contest Party Chairman Khrushchev denounced the Premier's views as defeatist, and dangerously complacent. Far from binding the imperialists to peace and opening the way to a reduced defence effort, Mr. Khrushchev argued that the development of nuclear weapons had increased the danger of surprise attack and demanded a major expansion of Soviet military and industrial power.\(^{(1)}\)

Almost ten years after the success of a bid for leadership which was much advanced by its hostility to the 'defeatism' of Malenkov, Khrushchev was removed from office by opponents who listed/defence policy, which bore a remarkable resemblance to that of the disgraced Premier Malenkov, among his most important

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\(^{(1)}\) On the Malenkov-Khrushchev debate, see below, Section II, Chapter 2: The Post-Stalin Debate and the Emergence of Soviet 'Deterrence'.
failures. Despite Khrushchev's alarm over the danger of war during the early post-Stalin period and his call for a major increase in the USSR's military and industrial strength, Khrushchev had not launched a major expansion of Soviet military capabilities, nor had he rapidly accelerated the development of the nation's heavy industry. Instead, Mr. Khrushchev founded Soviet policy upon the conviction that the terrible power of modern weapons had greatly reduced the likelihood of war by threatening both the United States and the Soviet Union with nuclear devastation regardless of the precise levels of their peace time deployments or the design of their wartime strategies. As the terrible power of nuclear weapons had largely eliminated any possibility of successfully waging or clearly 'winning' a future war, Soviet security could be assured by relatively small, even sharply inferior, strategic forces capable of destroying a number of American cities. In such circumstances towering nuclear force levels, while perhaps ideally desirable for some purposes, were not critically essential in safeguarding the USSR from attack. Further, with Soviet security confidently entrusted to missile-nuclear systems, the need for massive general purpose forces was also seen to decline. In short, Khrushchev adopted a policy of 'minimum deterrence', moving Soviet strategy full circle to a reliance upon relatively small and economical nuclear forces to 'deter' the United States from attack, while pursuing
the intensified development of the light industrial sector of the Soviet economy, a posture of which Malenkov would very likely have approved. (2)

**Armed Service Criticism of Khrushchev's Defence Policy**

There was no apparent change of any great significance in Soviet strategy or deployments during the first year following Khrushchev's retirement. Defence policy seemed to retain its established form. In April of 1965 US Secretary of Defence, Robert McNamara explained that by June the United States would command ICBM forces four times the size of the USSR's, while also enjoying a wide qualitative lead over the Soviet Union. (3)

The Defence Secretary further claimed that the Russians:

> have decided that they have lost the quantitative race and they are not seeking to engage us in that contest .... There is no indication that the Soviets are seeking to develop a strategic nuclear force as large as ours. (4)

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(2) On Soviet strategic doctrine and defence policy in the Khrushchev period, see below, Section II, Chapter 4: Khrushchev and the 'Minimum Deterrence' Solution, and Section III, Chapter 2: The Soviet Union and 'War-Avoidance': Khrushchev Retains 'Minimum Deterrence'.


'Subjectivism'

Despite McNamara's static view of Soviet defence policy, Khrushchev's removal from power in 1964 soon revealed substantial dissatisfaction within the armed forces over a number of defence issues. There was first a general complaint over the often bombastic quality of the former Premier's defence pronouncements, assertions of a highly extravagant nature supported by little more than Khrushchev's forceful rhetoric. There was also strong opposition to his 'amateur' tinkering with questions which were thought best left to the judgement of professional soldiers. In 1965 Marshal Zakharov warned of the dangers of 'subjectivism' - civilian meddling in military affairs - and advised:

... it is the sacred duty of the military cadres to protect these military sciences from everything which detracts from their authority; and ... any subjective approach to military problems, harebrained plans and superficiality can be very expensive and can cause irreparable damage. (5)

On the same theme Marshal V.D. Sokolovski argued for a larger professional military role in strategic planning, a very complex task requiring the skills of professional military experts. The Marshal reminded his readers in a 1966 article that strategic planning in the United States and NATO was in large part the responsibility of senior soldiers. (6)


Continuing Danger of War

In addition to criticism of the generally 'amateur' quality of defence planning in the Khrushchev period, there was also criticism of a number of the assumptions underpinning the former Premier's strategy. For example, the armed services did not accept the view that nuclear weapons had all but entirely eliminated any possibility of an imperialist attack. In 1965 Lt. Col. Ye Rybkin argued that the 'adventuristic' policies of capitalist countries were not compatible with the judgement that their leaders were moderate men. (7) He warned that western leaders sought to 'lull the vigilance' of socialist nations. (8)

In 1966 Colonel Sidel'nikov forcefully opposed the idea that nuclear weapons had greatly reduced the possibility of war, warning: 'That the policy and actions of the imperialists are intensifying the danger of a new world war is an indisputable truth'. (9)

Regardless of western intentions, however, Colonel Rybkin spoke of the real danger of nuclear war developing as the result of an accident. (10)

(7) Kolkowicz, op. cit., p.23.
(8) Ibid., pp.24-25.
(9) Ibid., p.27.
(10) Ibid., p.23.
Political and Military Utility of Nuclear Forces

The military also rejected the Khrushchev view that nuclear weapons had stripped modern warfare of all rationality and the armed forces of any real political and military utility. Unlike Khrushchev, many in the armed services did not regard nuclear war as an unwinnable catastrophe. Instead, it was considered vital that the Soviet Union deploy forces with a clear nuclear ‘war-waging’ capability, presenting a potent and positive deterrent which denied the United States a first-strike option and placed the USSR in a position of the greatest possible strategic advantage in the event of war. In short, it was necessary to recognise nuclear war as a real possibility and to reject the idea that the concept of ‘victory’ in such a struggle had become entirely meaningless. (11) Far from accepting the notion that ‘war-waging’ had been reduced to little more than suicidal madness, Colonel Ye Rybkin asserted: ‘An a priori rejection of the possibility of victory is harmful because it leads to moral disarmament, to a disbelief in victory, and to fatalism and passivity. It is necessary to wage a struggle against such views and attitudes’. (12)

(11) Erickson, op. cit., pp. 3, 41.
Colonels Rybnikov and Babakov denounced western strategists who 'are glorifying the cult of the bomb, who are trying to prove that modern war has ceased to be a continuation of politics and its instrument', characterising war as 'a threat to physical survival of nations and states'. The colonels argued for 'the important significance in the correct understanding by our cadres of the possibilities of conducting a victorious nuclear missile war ... and (of the possibilities) for an active struggle for the creation of definite capabilities for achieving victory', an understanding which required the 'overcoming of passive dispositions or views of certain people which border on fatalism'.(13)

Rejection of 'Minimum Deterrence'

With the imperialist countries still highly aggressive the possibility of a nuclear war still significant and the utility of military power still in tact, Khrushchev's strategy of 'minimum deterrence' was dismissed as dangerously inadequate. In deploying only a small number of strategic nuclear weapons, Khrushchev was thought to have crippled Soviet foreign and

defence policies with a deterrent which lacked credibility. The USSR could not confidently expect to influence the actions of the American leadership from a position of gross strategic inferiority. Further, the former Premier's 'obsessive' commitment to deterrence - deterrence of a highly minimal and negative kind - failed to provide for the defence of the Soviet Union in the event of the failure of deterrence, Khrushchev had in effect conceded a first-strike capability to the Americans. Commenting on the necessity of preparing for more than deterrence, Colonel Sidel'nikov advised:

One must not ignore the occasionally arising opinion of roughly the following nature: 'A world thermonuclear war can actually be prevented; all the peoples and all progressive forces of the earth oppose it. If so, is it necessary to maintain large armies and spend large amounts on the maintenance of armed forces?' One who reasons in this manner obviously has in mind only the possibility of preventing war and forgets or fails to observe another thing - the presence of a serious danger of a world war. The imperialist countries are stepping up the armament race, increasing their armies, and strengthening their aggressive military blocs. (14)

Expansion of Strategic Nuclear Forces

The rejection of 'minimum deterrence' by the armed forces brought demands for a massive increase in both the Soviet Union's offensive and defensive strategic forces as, in Colonel Rybkin's view, victory was possible provided that a favourable 'power relationship' was established between the USSR and the USA, exploiting opportunities to create and develop new means of conducting wars that are capable of reliably countering an enemy's nuclear blows'. (15) While there was general agreement on the need for an expansion of both offensive and defensive capabilities, some commentators appeared to believe that the build-up in the nation's forces should reflect an offensive emphasis. Among these Marshal Sokolovski warned that defensive posture would return the Soviet Union to its highly undesirable position at the outset of World War II. (16) Colonel Krupnov wrote that an offensive missile strike 'combines the functions of attack and defence simultaneously'. (17) Other analysts argued that the deployment of a powerful strategic defence was not equivalent to assuming a generally

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(15) Kolkowicz, op. cit., p.25.
(16) Ibid., p.29.
(17) Ibid.
defensive stance. Writing on this theme, Lt. General I. Zavialov explained:

... Soviet military doctrine does not discard all accounts and possibilities of defence. In this respect it can be emphasised that we recognise not passive defence but active defence built on a new technical base, a defence called into being by the appearance of contemporary means of conducting war and directed primarily against the enemy's means of nuclear attack. Such defence acquires an extraordinary importance and strategic significance. But ... this cannot be confused with or identified as a defensive strategy. (18)

Strategic Superiority

Although there was strong support for a very substantial increase in strategic forces within the armed services, the precise extent of the increase required was not clearly stated. Discussion of Soviet requirements did, however, include more than one conception of 'strategic superiority'. One of these concerned the capability to achieve a Soviet advantage at a particular confrontation point. Another involved overall quantitative superiority, while there was also some discussion of an interpretation which stressed technological development. (19)

(19) Erickson, op. cit., p.4.
Colonel I. Grudinin advised:

'The present day level of science and production, the superiority of one country in quantity and quality of new weapons can place the opposing side in an incomparably more serious situation than was the case in the past... because of this, winning and maintaining technical superiority over any probable enemy, while there is still peace, is today of decisive importance'. (20)

**Conventional Forces**

In heavily concentrating on strategic nuclear weaponry at the expense of all other forces it was also argued that Khrushchev had bound the Soviet Union to a rigid and inflexible strategy, posing only an unconvincing nuclear threat to any attacker. The Soviet Union was thought by many to require a substantial increase in its overall military capabilities in preparation for a wide range of possible emergencies, thereby providing flexible and generally 'usable' forces which would present a far more credible deterrent, improve the nation's capacity for active defence and increase political manoeuvrability. (21) Among those calling for larger general purpose forces Colonel Grudinin explained: 'The Soviet Armed Forces must be ready to guarantee destruction of the enemy, not only when nuclear weapons are used, but also when only conventional weapons are used'. (22)

(21) Erickson, op. cit., p.2.
(22) Kolkowicz, op. cit., p.28.
to a well established principle of Soviet military doctrine, the Colonel stated: 'Victory will be brought about by the combined efforts of all services of the Armed Forces', requiring the 'harmonious development and improvement based on the newest weapons and equipment of the Air Defence Forces of the Country, the Ground Forces, the Air Forces and the Navy'. (23)

**Allocation of Economic Resources**

The dramatic increase in Soviet military power for which the armed forces were pressing during the early post-Khrushchev period required the assignment of a large proportion of the nation's economic resources to defence and defence-related industries. As a part of the campaign of persuasion which the military conducted before the opening of the 23rd Party Congress in 1966, Colonels Rybnikov and Babakov discussed the need for heavy peacetime investment in national defence, arguing that the 'economic base of the defence capabilities' determines the 'essence of a policy and the actual essence of war' and that 'the nature of a war and its success depends more than anything else on the domestic conditions of that country'. (24)

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(23) Kolkowicz, *op. cit.*, p.28.

Similarly, Colonel P. Trifonenko advised: 'In a possible missile-nuclear war, economics will determine its course and outcome first of all and mostly by what it gives and is able to give for defence purposes before war begins, in peacetime'. (25) Marshal Zakharov also wrote in support of 'powerful heavy industry - the foundation of the whole socialist economy and the firm defence capabilities of our country'. (26) In reporting to the armed forces on the Five-Year Plan approved by the 23rd Party Congress, the Marshal also argued for investment in heavy industry and defence as essential to the survival and victory of the

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(25) Kolkowicz, *op. cit.*, p.27.
USSR in a future war. (27)

Defence Policy of the 'Collective Leadership'

Reassertion of Party Leadership

Clearly the post-Khrushchev re-examination of defence policy elicited a number of severe armed service criticisms of the former Premier's defence policy, criticisms which were particularly vocal at the time of the 23rd Party Congress in 1966. In 1967 the Communist Party Leadership responded to the loud call for major changes in policy, as well as for a greater professional military role in policy-making, by firmly reminding those in uniform of the Communist Party's rightful place of leadership. The general press and military journals published a number of articles reasserting the supremacy of the civilian leadership over the armed forces and rejecting what was thought to be their excessive critical zeal and over-estimation of Soviet military deficiencies. Major General V. Zemskov, for example, observed that nuclear weapons had not reduced the role of civilian leadership in modern warfare. If anything, they had increased the need for firm civilian control. Political expertise in future war would be essential to 'determine the political objectives of the war', manage the affairs of a large coalition of allies and to deal with neutral countries. Further, 'because of their destructive properties, modern weapons are such that the political leadership cannot let them
escape its control'. (28) General Zemskov also rejected the idea that civilians had assumed responsibilities for planning and direction over the armed forces which properly belonged to the professional military, advising his colleagues to accept the Communist Party's rightful position of supreme leadership. (29) Lt. Col. Rybkin in particular was criticised for his 'independent approach toward the question of the essence of war' which was not 'the last word in the domain of theory'. (30) In the same Krasnaia Zvezda article, uniformed critics of Soviet defence policy were taken to task for demanding a tremendous increase in Soviet strategic forces, as well as exaggerating the nation's security problems. (31)

While the Communist Party rejected any suggestion of an enlarged military role in policy-making, Khrushchev's successors apparently accepted many of the charges levelled against the former Premier's defence policy and shared the armed forces' desire for change. However, in the first year or two after Khrushchev's retirement, the policy reforms approved by Party Secretary Leonid Brezhnev and Premier Alexei Kosygin were not clearly discernable, very probably because

(31) Ibid., p.39.
they were not yet fully developed and agreed within the senior ranks of the Communist Party and the armed forces. (32)

A period of revision, bargaining and compromise was evidently required for the policy of the 'collective leadership' to evolve and win acceptance.

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(32) 'Statement of Dr. Thomas W. Wolfe', Senior Staff Member, The Rand Corporation, Member of the Faculty of the Sino-Soviet Institute, George Washington University, pp.1, 5, in The Limitation of Strategic Arms, Hearings Before the Sub-committee on Strategic Arms Limitation Talks of the Committee on Armed Services United States Senate, Ninety-First Congress, Second Session, Part 2, May 20, 1970, pp.61-62; Erickson, 'Strategic Review', op. cit., pp.52-68.
While the character of Soviet defence policy during the later half of the 1960s emerged only gradually, it was soon established that the 'crash programmes', bombastic pronouncements and sweeping assertions of the recent past were to be replaced by an approach to leadership which was far more cautious and pragmatic. In the words of a Kommunist editorial, Soviet policy was to be one of 'opposing aggressive imperialist circles without allowing itself any sabre rattling or irresponsible talk ... (designed to) soberly assess the situation and to find a precise orientation in it under all circumstances, favourable as well as adverse (and) to weigh, in a sober manner, the possibilities which we have (rather than to) succumb to illusion'.(33)

Although the direction of policy was still under examination in the first days of the post-Khrushchev period, a re-organisation of both the nation's defence industries and the Soviet officer corps was rapidly begun. In 1965 the management of the defence industries was re-centralised and a study of officer corps' efficiency was undertaken which resulted in a programme designed to lower the average age and improve the technical competence of Soviet officers, as well as to improve promotion procedures and career prospects within the armed forces.(34)

(33) Kolkowicz, 'The Dilemma of Superpower', op. cit., p.10.
The desire to increase the 'credibility' of Soviet deterrence through the deployment of armed forces capable of fighting effectively at all levels of nuclear and conventional conflict, appears to have strongly influenced the development of Soviet defence policy from the outset of the Brezhnev-Kosygin period. The Soviet Union was to develop a capacity for what might be termed 'flexible response' preparing the USSR to wage a general nuclear war, to conduct limited nuclear operations and to fight a large-scale conventional conflict. While the commitment to multiple capabilities required and eventually achieved a very significant build-up of both strategic nuclear and general purpose forces, the expansion of the USSR's nuclear strength was established as the primary goal. (35)

Rejection of 'Minimum Deterrence'

The build-up in strategic nuclear forces approved by Brezhnev and Kosygin clearly expressed a complete rejection of the Khrushchev strategy of 'minimum deterrence'. 'Minimum deterrence' had failed to support Soviet foreign policy or to develop a fully 'credible' deterrent against attack from American nuclear forces which had been permitted to achieve a breath-taking level of superiority. Khrushchev's 'minimal' deployments had also failed to provide the means of defending the USSR in the event of a breakdown in deterrence. The effort undertaken during the mid-1960s to deploy armed forces capable of effectively defending the Soviet Union against nuclear attack reflected a change in the Soviet attitude to nuclear warfare as expressed in deployment terms, although no change was necessary in declaratory doctrine. Under Mr. Khrushchev, the destructive power of nuclear weapons was thought to have largely invalidated the concept of 'war-waging', assuring that any level of peacetime deployments would fail to save either combatant from a disaster of catastrophic proportions. Deterrence was, therefore, the only practicable objective of strategic planning. In sharp contrast, the policy of the collective leadership apparently accepted the view of many senior military commanders that 'war-waging' retained its validity and that the development of the capability
to fight, rather than simply to deter, a full-scale nuclear war represented a vital national priority, as such a capability was the only basis for a truly 'credible' deterrent and the only guarantee of Soviet survival should deterrence fail. (36)

End Strategic Inferiority

Although both Soviet deterrence and defence were seen to require a substantial increase in nuclear strength, the precise level of the increase required was more difficult to determine. Rejecting the 'Mutual Assured Destruction' concept as a measurement of strategic requirements, Soviet policy-making was not informed by any sharply defined alternative standard. Indeed, it is probable that the great expansion in Soviet strategic forces begun during the mid-1960s was undertaken without any clear determination of its long-term objectives, either with regard to the quantitative force levels to be attained or the long-term strategic relationship to be established with the United States. (37)

It was clear, however, that there were to be no recklessly breathtaking reversals of policy or pledges of the Khrushchev type to grind out ICBMs like 'sausages'. Instead, there was to be a vigorous and intensive but soberly disciplined and thoughtful commitment to the very substantial enlargement of Soviet strategic capabilities. (38) Although there were no doubt a variety of differing views within the Soviet leadership on the precise extent of the enlargement required, there was at least general acceptance of the need to develop a 'credible' deterrent and an effective defence through a build-up in Soviet strategic arms which would end the status of the USSR as the inferior nuclear power.

(37) 'Statement of Dr. Thomas W. Wolfe', Before Senate Sub-Committee on Strategic Arms Limitation Talks, op. cit., pp.61-62; Erickson, 'Soviet Military Power', op. cit. p.1, 5.
(38) Erickson, 'Soviet Military Power', op. cit., p.4.
'War-Winning' Capability

From the mid-1960s, the USSR set about the deployment of forces sufficient to support at least a relationship of equality with the United States, delivering the Soviet Union from its 'hostage' position and clearly denying the United States a first-strike capability. (39) While the rapid expansion of the USSR's nuclear capabilities clearly revealed a commitment to ending Soviet inferiority, the suggestion that there was also a commitment to attaining a 'war-winning' posture or overall strategic superiority is much more difficult to establish. Indeed, during the first years after Khrushchev's retirement there was no evidence of any consensus on the proposition that victory in a thermo-nuclear war was possible, (40) although there were some expressions of armed service support for a 'war-winning' strategy as in Colonel Telyatnikov's call for 'an active struggle for creation of definite capabilities for achieving victory' in a nuclear war. (41)

(39) Erickson, 'Soviet Military Power', op. cit., pp.4-5, 49.
(40) Ibid., p.4.
(41) Ibid., p.41.
Strategic Superiority

In addition to the question of nuclear 'war-winning', there was also a good deal of discussion of strategic superiority for several years following Khrushchev's fall. On occasion the concept of superiority appeared to involve the achievement of only a relative advantage at a local crisis point, equipping the USSR to accomplish tremendous destruction at the outset of a nuclear conflict, while defending itself from enemy attack. On other occasions superiority seemed to be given a more expansive definition, implying an overall quantitative superiority which would provide the Soviet Union with the means to 'win' a nuclear war. (42) However, despite the support for a strategic superiority in some form within the armed forces, the nation's political leadership does not appear to have rallied behind superiority as an objective of Soviet defence policy at this time. (43)

Defence and Deterrence

While there was considerable ambiguity about the definition and status of superiority, as a goal of Soviet defence policy, there was no confusion over the much enhanced role of strategic defence in the thinking of the collective leadership. From the perspective of a strategy of 'minimum deterrence' supported by the conviction that an American attack was highly improbable, as well as the view that such an attack would inevitably prove calamitous, there was no compelling need for the deployment of elaborate strategic defences. Indeed, under Khrushchev's highly negative deterrence philosophy and necessarily 'short-war' doctrine, there was little or no place for the notion of a determined strategic defence. Defence and deterrence had become all but mutually exclusive. (44) In the post-Khrushchev period the former Premier's virtually defenceless posture was widely regarded as highly inadequate.

A deterrence strategy based largely upon the capability to launch an offensive nuclear strike which would prove totally disastrous for the USSR burdened the Soviet Union with a seriously enfeebled deterrent. It further bound the nation's leaders in a painfully inflexible military and political posture, providing only a single largely useless option with which to respond to military emergencies and to pursue political objectives.

(44) Erickson, 'Soviet Military Power', op. cit., p.41.
In failing to support its declaratory stress on missile-nuclear weapons with adequate deployments, the 'minimum deterrence' policy had fixed the Soviet Union in a position of long-term strategic inferiority, crippling the USSR with an incredible deterrent and threatening the gravest consequences should deterrence fail. Khrushchev's successors, therefore, determined that the critical need for both a 'credible' deterrent and a genuine 'war-waging' capability demanded the establishment of strategic defence as the mission of first importance. (45) In order to provide for a reliable deterrent, a wide range of military-political options, as well as to assure Soviet survival in the event of the breakdown of deterrence, the USSR required effective defensive forces as an indispensable part of the 'war-waging' capability which would guarantee Soviet security in both peace and war.

The Soviet Union was no longer to adhere to a deterrence philosophy which was heavily reliant upon the continued 'good behaviour' of the USA. Its now far more positive and assertive strategy entrusted the nation's security not to any subjective judgement as to the enemy's pacific intentions or 'realistic' turn of mind, but upon a demonstrated capability to fight a strategic nuclear war, a capability powerfully buttressed by a system of active defence which could significantly limit the damage which an enemy might hope to

(45) Erickson, 'Soviet Military Power', op. cit., p.49.
inflict upon the USSR. In short, during the second half of 1960s, Soviet policy finally managed to reconcile deterrence and defence. With strategic deployments suitably 'balanced' between offensive and defensive systems and nuclear forces generally much expanded and improved the Soviet Union moved to a relatively 'long war' doctrine, prepared to 'survive' an initial nuclear exchange and continue the struggle. (46)

In addition to increasing the persuasiveness of Soviet deterrence and improving the USSR's capability to 'wage-war', the deployment of powerful defensive and offensive forces supplied the military strength needed to support the Soviet Union's wide ranging political objectives and interests as a

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fully qualified 'superpower' and the unquestioned equal of the United States. (47)

General Purpose Forces

Military Criticism of Khrushchev Policy

Just as Khrushchev's nuclear strategy came under heavy critical fire in the middle 1960s, the former Premier's policy as it affected general purpose forces was also attacked for its failure to provide either the quantity or the quality of conventional strength which the USSR required for its peacetime and wartime needs. In resting the Soviet Union's security almost entirely upon its nuclear capabilities and in estimating the outbreak of a major war of any kind as highly improbable, Khrushchev had admitted little justification for the maintenance of large conventional forces. The result was a decline in both the declaratory status and the effective strength of the Soviet Union's general purpose forces. With Khrushchev's removal, the professional military argued that a single nuclear option strategy had placed the USSR in a dangerously rigid posture in the face of a wide range of possible non-nuclear challenges. In short, the national security required a substantial increase in conventional strength, providing the military wherewithal to deal with conflicts other than general nuclear war. (48)

However, statements by Soviet military writers in support of a broad range of military capabilities did not signal any non-

nuclear revolution in doctrine or policy. Several commentators from Defence Minister Marshal Rodin Malinovskii down, made clear that a surprise nuclear attack remained the critical threat and that the Soviet Union's arsenal of nuclear weapons and long-range missiles continued to represent the primary and decisive means of waging modern war. In other words, there was no general shift to a conventional emphasis in Soviet strategy, nor was there any dramatic change in the Soviet expectation that any war in the European theatre would very probably develop as a nuclear conflict. Nevertheless, although the American concept of 'flexible response' was still denounced as a strategy of aggression, Khrushchev's retirement was followed by a number of pronouncements suggesting the possibility of a non-nuclear phase in a future superpower conflict.

In a 1965 article 'The Influence of Soviet Military Doctrine on the Development of Military Art', General Colonel N.A. Lomov warned that 'imperialists are waging, and may unleash in the future, local wars'. He pointed out that many local wars had been fought by conventional means and offered the American 'flexible response' strategy as evidence that 'such a war might be in Europe also'. Lomov also advised:

(50) Ibid., p.452.
The armed forces must master the methods of waging operations in existing organisations with limited use of nuclear weapons and without them, that is, with the use of conventional means. However, he reminded his readers that, while in the past local conflicts have been waged with only conventional weapons:

this does not exclude the possibility of the use in them of tactical and operational nuclear weapons. For everyone, including imperialist theoreticians of local wars, obviously the probability of the development of limited war into world nuclear war, in the event of the involvement in local conflicts of nuclear powers, is always great and, under certain conditions, it may become inevitable. (52)

Writing of American discussions of non-nuclear or tactical nuclear conflicts, General Colonel Sergei M. Shtemenko explained: 'Soviet military doctrine does not exclude such wars', but condemned western tactical nuclear theories as 'only a trick intended somehow to help motivate and legalise the use of the atom against mankind'. (53) Colonel V.V. Glazov in 'The Regularity of Development and Change of Methods of Armed Conflict', appeared to acknowledge the possibility of a non-nuclear phase at the outset of a world war: 'It is not excluded that the prelude to world war will be local war in which in the beginning nuclear weapons will not be used'. However, he further added:

(52) Kintner and Scott, op. cit., p.156.

It is now already obvious that no matter how a world war begins, the basic changes which have taken place in the material-technical base of war, without fail, will stipulate the appearance of new methods of armed conflict. Indeed, the presence of modern means makes it possible to involve in the sphere of war all continents, seas, and oceans. Combat actions can unroll on land, on sea, under the sea, in the air, and in space. And everywhere, the nuclear weapon can be used. (54)

'Balanced Forces'

Apparently sharing the dissatisfaction of the armed forces with the decline in Soviet conventional strength under Khrushchev, as well as accepting the need for a wider range of military and political options, the 'collective leadership' moved to correct the existing 'imbalance' between the nation's nuclear and non-nuclear forces. This correction did not, of course, involve an equal division of resources and responsibility between strategic nuclear and general purpose forces, but rather the preparation of the armed services for the fully effective performance of their respective missions in a general war. (55) The general purpose forces were to develop a genuine 'war-waging' capability, equipping the Soviet Union to conduct conventional

(54) Kintner and Scott, op. cit., p.87.
wars of considerable duration, an objective which Defence Minister Marshal A.A. Grechko pursued with intensive programmes of military exercises evidenced a new emphasis on 'combat readiness'.

The heightened concern with conventional 'war-waging' centred particularly on formations assigned to the European theatre, a region still regarded as vital to Soviet security. Both the forces of the USSR and her Warsaw Pact allies were modernised and strengthened, with an emphasis on increased mobility, while General purpose forces were also better prepared for possible limited war service outside the European theatre. Although it was perhaps with regard to Europe that public Soviet pronouncements were most pessimistic about the conduct of a limited conflict, official statements in this period were distinguished from those of the Khrushchev era by a somewhat greater willingness to concede the possibility of non-nuclear or tactical nuclear conflicts between NATO and the Warsaw Pact. Nevertheless, Soviet doctrine continued to reject American 'flexible response' and limited war doctrines which envisaged conflicts in which the combatants would faithfully hold the line of escalation at any one of a number


(57) Ibid., pp.115-118.

of levels, perhaps relying upon conventional forces alone or employing tactical nuclear weapons in a precisely limited, almost 'surgical' fashion. (59)


Strategic Force Levels: 1964-1968

Offensive Ballistic Missiles

ICBMs

The affect of the decision to end the Soviet Union's position of strategic inferiority did not require more than a year or two after the succession of the collective leadership to show itself in a strategic build-up which dramatically raised the quantitative level of Soviet missile forces, while diversifying their character and reducing their vulnerability. (60)

It was probably very soon after Mr. Khrushchev's retirement that his successors ordered the accelerated deployment of several systems, the development of which had begun under the former Premier. By 1966 evidence of this acceleration began to appear. By October of 1966 the Soviet Union commanded some 340 ICBMs; by October of 1967 the total increased to 720, while in the following year the Soviet ICBM arsenal reached a total of approximately 900 launchers. These statistics trace not only a dramatic quantitative expansion, but also the introduction of new missile types deployed in 'hardened' silos. Of the new types the liquid fuelled SS-11, with a one megaton warhead, accounted for the greatest part of the expanded missile force. The liquid fuelled SS-9, although fewer in number than the SS-11, was nevertheless regarded with alarm in Washington because of its estimated payload capability of between...

ten and twenty-five megatons. Both the SS-9 and the SS-11 were deployed in dispersed concrete silos. The SS-13, roughly the equivalent of the US Minuteman missile and the Soviet Union's first solid fuelled ICBM, was under development during this period and became operational in 1968 or 1969. A mobile land-based and solid fuelled ICBM was also under development. (61)

FOBS and MRV

Other weapons research projects underway at this time included an orbital bombardment system (labelled 'Fractional orbital bombardment system or FOBS in the United States), designed to launch a nuclear warhead from a satellite before the completion of a single orbit, as well as to serve as depressed trajectory ICBM able to elude American missile warning systems. First publicly displayed in 1965, FOBS was first flight-tested in 1967. (62) Of far greater potential significance


than orbital weapons, the Soviet Union was also engaged in a multiple warhead programme during this period. In August of 1968 the USSR tested a triplet multiple re-entry vehicle (MRV) using an SS-9 launcher. Research was also underway into the development of Multiple Independently Targeted Re-entry Vehicles (MIRV) during the late 1960s. (63)

MRBMs/IRBMs

While during the second-half of the 1960s Soviet ICBM force levels rose dramatically, the USSR's arsenal of medium and intermediate range missiles (MRBMs/IRBMs) remained at the level established at the time of Mr. Khrushchev's retirement. The total of 700-750 M/IRBMs included the single-stage Sandal with an 1100 mile range and limited launch mobility, as well as the single-stage Skean with a 2000 mile range. The bulk of these weapons were located in the Soviet Union's European regions. Although M/IRBMs totals did not increase during the

late 1960s, research into mobile missiles of less than intercontinental range was reportedly in progress. (64)

Submarine Launched Missiles

Along with a major increase in land-based missiles, the later half of the 1960s also witnessed the expansion of the Soviet Union's missile-firing submarine force. By 1967 the Soviet Navy commanded approximately seventy-five missile-firing submarines. Of this total, twenty-five diesel powered submarines and ten nuclear powered submarines were each capable of firing an average of three ballistic missiles. The liquid-fuelled SS-N-4 Sark submarine launched ballistic missile (SLBM), was designed for surface launch, delivering a one megaton warhead from a G-class diesel powered submarine over a four hundred mile range. The liquid-fuelled SS-N-5 Serb SLBM was launched from a submerged H-class nuclear powered submarine delivered a one megaton warhead over approximately a 650 mile range. In 1968 the Y-class submarine joined the fleet, a nuclear powered ship armed with sixteen SS-N-6 SLBMs capable of firing over a 1500 mile range. While the Y-class was similar to the earlier models of the American Polaris, it was inferior to the improved Polaris types in the range and quality of its liquid-fuelled weapons. The Soviet Navy also disposed of about two diesel powered and twenty nuclear powered submarines armed with cruise missiles. In 1968-1969 the Navy's cruise missile capability was strengthened by the first appearance of the C-class submarine, nuclear
powered and armed with light SS-N-7 missile designed for subsurface launch.

As well as increasing the size and capabilities of its missile firing submarine forces, the operational sphere of Soviet submarines was also extended during the middle and late 1960s, with the more frequent conduct of regular submarine patrols in distant waters after 1964 and a round-the-world cruise by a Soviet nuclear powered submarine in 1966. In the same year, Soviet missile-firing submarines were also assigned permanent patrols within range of the Atlantic and Pacific coasts of the United States. (65)

Strategic Aircraft

In addition to land-based and sea-launched missiles the Soviet Union's nuclear strike forces also included a strategic air arm. In 1966 the USSR maintained at most some 250 intercontinental bombers. This total comprised about 110 four-jet subsonic M-4 Bison bombers with a range of 6,050 statute miles and a 20,000 lb. bomb-load capability, as well as perhaps 100 turbo-prop subsonic TU-95 Bear B bombers with a range of 7,800 statute miles, a 40,000 lb. bomb-load capability and one Kangaroo air-to-surface missile. The Soviet Air Force also commanded about 900 twin-jet medium bombers, including the subsonic TU-16 Badger C with a 3,000 mile range, a 20,000 lb. bomb capability and one Kipper air-to-surface missile. There were also probably a small number of the more modern supersonic TU-22 Blinders bombers, capable of flying over a range in excess of 2,000 miles with a 12,000 lbs. of bombs and one Kitchen air-to-surface missile. (66) The run-down of bomber strength left the USSR in 1967 with an intercontinental force of 90 Bears and 110 Bisons, with about 50 of the latter serving as tankers, along with about 800 Badger and Blinder medium bombers. (67)


In 1968 the total number of intercontinental bombers remained unchanged, with, however, only 750 Badger and Blinder bombers in service. The Blinder accounted for a growing proportion of the medium bomber force, reaching about one-quarter of the total by 1968. Despite the declining numbers of Soviet strategic aircraft, research into the development of advanced bomber types and 'stand-off' air-to-surface missiles, revealed the intention of the collective leadership to maintain a long-range air element in the USSR strategic forces. (68)

In addition to implementing its commitment to increased offensive nuclear strength during this period, the Soviet Union also very significantly expanded its capability to resist nuclear strikes with improved early warning systems, defensive missiles of various types, manned interceptors and anti-aircraft artillery. In 1966, after several years of ABM claims, the Soviet Union was reported to be emplacing an ABM system around Moscow with the possibility of another around Leningrad as well. (69) The Moscow deployment continued in 1967 based upon the multi-stage, solid fuelled SA-7 Galosh missile, armed with a one to two megaton warhead and capable of a range which would provide a high altitude area defence. Galosh was intended to defend the USSR’s heavily populated and industrialised north-west region against Minutemen launched from North America or Polaris missiles fired from the Arctic Ocean. Early warning systems in the Urals and the southern areas of the USSR were designed to extend ABM protection against Polaris attacks from the Mediterranean and to resist a future Chinese attack. (70) The defensive installations near Leningrad

dubbed the Tallin Line were thought to be an advanced air
defence system in 1967, with perhaps a limited ABM capability. (71)

In 1968 the Moscow ABM deployment was slowed as an effort was
made to improve the system's radars as well as to develop an
improved anti-missile missile with the ability to coast after
launch and then be re-fired in the direction of an incoming
missile. (72)

Air Defence

The Air Defence Command (PVO Strany) was also very much
concerned with protecting the Soviet Union from manned aircraft
strikes as well as ICBM assaults and for this purpose the PVO
deployed an expanding array of anti-aircraft missiles and
fighter aircraft. The air defence missile arsenal included
the SA-2 Guideline surface-to-air weapon, with a ceiling of
80,000 feet and an impact range of about 31 statute miles,
the SA-5 Griffon, also a two-stage boosted missile but with an
impact range and an operational altitude limit superior to
Guideline and the SA-4 Ganef, a solid fuelled boosted anti-
aircraft weapon transported on tracked carriers. (73) Large
numbers of SA-2 and SA-5 missiles were deployed in the Tallin


(72) Erickson, 'Soviet Military Power', op. cit., p.46.

air defence system. In 1966 the Soviet Union was also credited with a total of 4,500 fighter aircraft, most of which were either MiG-17 Fresco or MiG-19 Farmer, but with a number of more advanced aircraft in service, with maximum speeds of 1,200 mph and 60,000 feet operational capabilities, including the SU-9 Fishpot B, the MiG-21 Fishbed and the Yak-28 Fishbar. There were reports of the Yak-25 Firebar and the new MiG-23 Flogger coming into service in 1966, both armed with air-to-air missiles. The USSR's air defence capability was also supplemented by anti-aircraft artillery, 23 mm, 57 mm, 85 mm, 100 mm and 130 mm guns as well as the ZSU-57-2 twin-barrelled guns fixed aboard tanks. In 1967 there was also reportedly a limited deployment of the two-stage SA-3 GOA surface-to-air missile, designed to provide short-range defence against low-flying aircraft. The mobile SA-6 Gainful was also first publicly displayed in the same year. The PVO's inventory of fighter aircraft stood at about 3,700 in 1967. The heavy deployment of surface-to-air missiles in the Tallin Line and the investment in interceptor aircraft indicated that, despite the primacy of

(76) Ibid., p.6.
(77) Erickson, 'Soviet Military Power', op. cit., p.45.
(78) Holst, op. cit., p.63.
ballistic missiles in the strategic planning of both the USA and the USSR, the Soviet Union retained air defence as a high priority mission. The campaign to improve strategic defence was also reinforced by an intensified civil defence programme. In 1965 the civil defence programme was centralised in a new organisation under Marshal V.I. Chuikov, (80) and there was an extensive effort to train the general public in civilian defence techniques. (81)

(81) Ibid., pp.46-47.
General Purpose Forces

Ground Forces

Soviet policy affecting the nation's general purpose forces during the latter half of the 1960s, appears to have been broadly shaped by a desire to develop a more effective limited war capability than had been thought necessary under Premier Khrushchev's leadership. This improved capability was to prepare the Soviet Union to engage in limited conflicts not only in the traditional spheres of Soviet interest but also involved the ability to project Soviet forces into far distant regions through an expansion of air transport capacity and the strengthening of airborne, naval and amphibious forces. (82)

As a sign of the growing importance attached to the ground forces the Soviet Army's independent command, dissolved in 1964, was recreated in 1967 and, although the conscript's term of service was shortened by one year, the annual intake of men into the armed forces was increased by 30-40%, creating a larger pool

of trained manpower in reserve. However, despite the enlarged military draft, with the reduction in the length of the conscript's tour of duty the overall number of Army troops remained at approximately the level established in Mr. Khrushchev's final year of office. The ground forces, still comprising 140 divisions, accounted for about two-thirds of the 3,000,000 men in the armed services. Ground forces deployments also remained largely consistent with Khrushchev's 1964 dispositions. However, an increase in the number of troops assigned to the Sino-Soviet was begun in 1965, an increase made possible by a more extensive mobilisation rather than redeployments. In August of 1968 the Soviet Army moved perhaps 400,000 to 500,000 troops into Czechoslovakia but reduced their number by December to 60,000 to 100,000 troops forming four or five divisions. The early post-Khrushchev period did not bring a dramatic upsurge in Army manpower or radical redeployments but ground forces' equipment and capabilities were improved. These improvements included advances in command and control, increased use of cross-country fuel supply techniques, additional tubed artillery, further deliveries of the new T-62 medium tank, along with larger quantities of mobile anti-aircraft weapons, tactical missiles and rocket launchers and the inclusion of motorised rifle divisions in tank armies.

(84) Ibid., pp.466-471.
(85) Ibid., p.471.
Looking at the ground forces in greater detail, after approximately two years of 'collective leadership' a small increase in the overall manpower levels of the armed services had been achieved bringing the manpower total to 3,165,000 men in 1966, not including some 230,000 paramilitary troops under the command of the Ministry of the Interior. Of this total, the ground forces accounted for 2,000,000 men, forming about 140 divisions including the ground troops of the Air Defence Command. However, the small increase in overall military manpower was of little benefit to the ground forces as most of the new troops were assigned to the Strategic Rocket Forces and the Navy.

Seventy-five ground army divisions were deployed in the Soviet Union's European regions, 22 divisions in the central area, 17 in the Far East, 20 divisions in East Germany, 2 in Poland and 4 in Hungary. The 26 divisions assigned to service within the Warsaw Pact could be expanded to 70 divisions within a month. Soviet forces in the European theatre were maintained at combat strength, as were 12 of the 17 Far East divisions.

While ground forces stationed in European Russia were not maintained at a uniformly consistent level of combat readiness, they nevertheless accounted for most of the rest of the USSR's combat ready forces. The 22 divisions in the Soviet Union's central region required major reinforcement in the event of war. About 43 of the 140 ground army divisions were organised as tank

divisions with some 9,000 men and 375 medium and heavy tanks when fully battle-ready. Ten tank divisions were deployed in East Germany, one in Poland and two in Hungary. Some 90 divisions were organised as motorised rifle divisions, each comprising 11,000 men and 210 medium tanks, while a further seven divisions served as airborne formations. Reflecting an emphasis on rapid offensive movements, the ground forces were equipped to conduct a large scale advance at a rate of 60 miles per day supported by intensive firepower. To assist in this effort, the Soviet Army was provided with Armoured Personnel Carriers (APCs) designed to operate in an irradiated battle area along with tanks of several varieties: the T-54/55 medium tank armed with 100 mm gun, the T-34 medium tank with a 122 mm weapon, the newer T-62 medium tank mounting a 115 mm gun, the T-10 heavy tank with a 122 mm gun and the PT-76 amphibious reconnaissance tank. Much of this armoured force was capable of both night fighting and amphibious river crossings. Artillery pieces of 122 mm, 130 mm and 152 mm calibre were in service along with 57 mm, 85 mm and 100 mm weapons, as well as Snapper, Sagger and Swatter missiles for anti-tank purposes. The Army also contributed a substantial air defence capability with its surface-air-missiles. Ground Army fire-power much increased by tactical nuclear missiles of the Frog and Scud types (up to 150 mile range) and the Shaddock.
cruise missile with a maximum range of 300 miles. In addition to conventional and nuclear conflicts, the ground forces were also equipped to wage offensive and defensive chemical warfare. (87)

The overall 1967 manpower total was reported to be 3,220,000, marking another small increase. (88) The Soviet Army of 200,000,000 man and 140 division level, was deployed as follows: 26 divisions in central and eastern Europe; 60 in European Russia (west of Urals and north of the Caucasus); 10 in the Soviet Union's central regions (between Urals and Lake Baikal); 30 in the south (Caucasian and Soviet Central Asia); and 15 in the Far East (east of Lake Baikal).

There were reports of intensified ground forces training in the conduct of both conventional and nuclear operations demonstrating an interest in the development of a Soviet version of a 'flexible response' capability. (89) In 1968 there were 63 divisions on station in European Russia, 8 in the central area of the USSR, 28 in the south. Some 88 of the still 140 division total were now said to be motorised rifle divisions while 45 divisions were organised as tank formation. (90) The Soviet invasion of Czechoslovakia in August of 1968 resulted in the emplacement of five to six Soviet divisions in that country.

(89) Ibid., pp.6-7.
Logistics

The latter half of the 1960s witnessed an effort to improve the mobility, efficiency and standardisation of general purpose forces logistics.\(^{(91)}\) By 1966 the Soviet Union was capable of lifting two airborne divisions with their equipment over short or medium distances.\(^{(92)}\) By 1967 this capability had increased to three divisions of the total of seven airborne divisions,\(^{(93)}\) employing an air transport force of 1,500 short and medium range aircraft of several types: the twin-engined IL-14 and AN-24, and the four-engined AN-12 and IL-18.\(^{(94)}\) The large AN-22 troop transport, publicly demonstrated in 1967,\(^{(95)}\) was reported to be in limited service by 1968.\(^{(96)}\) At least some of the 2,000 Aeroflot civil aircraft of the TU-104, TU-114, TU-124 and TU-134 types could also be pressed into a military transport role during wartime. The ground forces also commanded some 1,500 helicopters including the Mi 6 Hook.

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designed to lift troops, the Harke for lifting heavy loads and the lighter Hare and Hound models. (97)

Tactical Air Power

As concerns tactical airpower, the first of the Brezhnev-Kosygin years brought no significant increase in the numbers of tactical aircraft, the total remaining at about 4,000, including light bombers, ground attack and interceptor fighters transport and reconnaissance aircraft and helicopters. The tactical inventory continued to retain a considerable number of obsolescent types - the MiG-15 Fagot, the MiG-17 Fresco, MiG-19 Farmer and the II-28 Beagle - but also included newer varieties such as the ground attack SU-7 Fitter, the MiG-21 Fishbed interceptor, the Brewer supersonic light bomber which was to succeed the Beagle and the twin-engined Mangrove reconnaissance aircraft. (98) While tactical force levels remained largely unchanged, intensive efforts were made to improve the quality of tactical airpower by developing new fighter and fighter-bomber models including the variable-wing MiG-23, publicly displayed in July of 1967. (99) In 1968 it was reported that the Soviet Union was in the process of arming its ground attack aircraft with tactical air-to-surface missiles of the NATO Bullpup and Martel types. (100)

Under the Brezhnev-Kosygin leadership the development of the Soviet Navy as a fleet of global capabilities was continued, as was the emphasis on its subsurface elements. However, despite the continuing subsurface emphasis and the apparent refusal of Soviet naval planners to adopt the western conception of 'balance', the late 1960s also brought an upsurge in surface ship construction and modernisation, along with an expansion of the Soviet merchant fleet. Both surface and subsurface forces were assigned a wider operational sphere, with a permanent naval presence established in the Mediterranean and detachments were dispatched on goodwill visits to the Indian Ocean and the Persian Gulf.  

Between the years 1963 and 1972 Soviet defence policy affecting the USSR's submarine fleets resulted in the deployment of an underwater force slightly reduced in size but much improved

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in quality.

In 1966 the Soviet Navy commanded some 350 conventional and 50 Nuclear powered submarines, with the nuclear force expanding at a rate of at least five ships per year. About 15 of the nuclear and 25 of the diesel submarines were armed with ballistic missiles, while 12 of the nuclear and 28 of the diesel submarines were armed with cruise missiles. Soviet submarines were divided among four large fleets: 75 in the Baltic Sea, 175 in Arctic waters, 45 in the Black Sea and some 100 submarines in the Far East. In addition to those units armed with cruise and ballistic missiles discussed above, there were also diesel and nuclear powered units armed with torpedoes and assigned to training and attack missions. The V-class torpedo armed nuclear submarine, first introduced under Khrushchev, continued to join the fleet in increasing numbers under Brezhnev and Kosygin. The Soviet Navy also disposed of growing surface forces, including 20 cruisers of three classes: Sverdlov, Chapayev and Kirov, with one of the Sverdlov ships armed with a medium-range SAM launcher. There were also 105 destroyers in service, including ships of the Kynda, Kashin, Krupny, Kildin classes and also the new Kotlin type, 25 of which mounted surface-to-air or surface-to-surface missiles. The Soviet naval inventory also included 100 other ocean-going escorts, 300 coastal escorts and sub-chasers, 350 fast patrol boats, 300 mine sweepers, 200 landing ships and landing aircraft. In 1966 the Soviet Union commanded a Marine
Corps of only 3,000 men serving with the Baltic, Black Sea and Pacific fleets; however there were reports of renewed Soviet interest in amphibious forces. Fleet operations were supported by some 500 bombers based near the USSR's northwestern and Black Sea coasts, as well as 350 other land-based aircraft. Naval aircraft included the TU-16 Badger, the TU-22 Blinder, gradually replacing the Badger, a TU-95 Bear type serving in a reconnaissance role, the IL-28 Beagle equipped with torpedoes, the anti-submarine warfare (ASW) Madge and Mawl flying boats, the Hound ASW helicopter, the twin-jet Mallow flying boat and a variety of transport aircraft types. (102)

In 1967 the Institute for Strategic Studies (ISS) reported a diesel powered submarine force of 330 ships (350 in 1966) and 50 nuclear powered ships. Approximately 10 of the nuclear variety and 30 of the diesel submarines were equipped with ballistic missiles and some 24 (28 in 1966) were armed with cruise missiles, along with 20 nuclear submarines (12 in 1966) which were similarly equipped. The inventory of Soviet surface ships in 1967 included four Kynda-class cruisers and one of the new Kresta-class, armed with surface-to-surface and surface-to-air guided missiles, 12 Sverdlov cruisers, one

with surface-to-air missiles, and six other cruisers of which three were engaged in training.

In 1967, the first of the USSR's anti-submarine helicopter carriers, the Moskva, appeared. Laid down in the Khrushchev period, the appearance of the Moskva stimulated considerable speculation in the west as to whether the USSR would also proceed to construct attack aircraft carriers. Destroyer forces included 10 of the Krupny type with surface-to-surface cruise missiles, six Kildin-class with surface-to-surface guided missiles, nine of the Kashin type for anti-aircraft and ASW service and 30 Kotlin anti-aircraft and ASW destroyers, one or two of which mounted surface-to-surface guided missiles, along with 50 Skory class in the same role. The ISS also reported increases in the Soviet Mediterranean forces in June of 1967, including ships with an amphibious tank landing capability. The interest in amphibious forces generally continued and the Soviet Union's small Marine Corps or naval infantry was expanded from 3,000 to 6,000 troops. (103)

In 1968 no increase in the total number of conventional and nuclear submarines was reported. However, about 13 (10 in

1967) of the nuclear and 30 (unchanged from 1967) conventionally powered submarines were armed with ballistic missiles, while 25 nuclear (20 in 1967) and 20 (24 in 1967) conventional submarines mounted cruise missiles. As for the surface fleet, the number of Kresta cruisers had increased from one to three. There were also increases in the numbers of fast patrol boats. In 1968 it was also reported that the Soviet Navy had maintained between 25 and 50 ships in the Mediterranean since June of the previous year. Naval airpower comprised 400 bombers (500 in 1967) and some 500 other aircraft (370 in 1967), including the following aircraft types: 300 TU-16 Badgers with air-to-surface missiles, (the Badger's partial replacement by the Blinder, was in progress), 50 TU-95 Bears (naval reconnaissance), 50 IL-28 Beagles (some with torpedoes), 50 Be-6 Madge flying boats and 100 Mi4 Hound helicopters, with Madge to be replaced by the turbo-prop flying boat Mall. The Soviet interest in amphibious capabilities continued and there was
an increase in the Marines or naval infantry from 6,000 to 8,000 (104) men.

Warsaw Pact

The succession of Brezhnev and Kosygin clearly did not dislodge the European theatre from its traditionally prominent place within Soviet policy. The modernisation and integration of Warsaw Pact forces was accepted among the high ranking priorities of the collective leadership. (105) The desire to improve the integration and co-ordination among Warsaw Pact forces resulted in seventeen military exercises between 1964 and August 1968 with an emphasis on the countries of the alliance's Northern Tier: The German Democratic Republic (GDR), Poland and Czechoslovakia. These exercises simulated both nuclear and conventional ground battles, sometimes involving airborne and amphibious actions and naval operations in the Baltic and Black Seas. (106) In addition to improving the combat effectiveness of the Warsaw Pact through frequent field exercises, the Soviet Union also encouraged increases in the defence budgets of Pact countries, the enlargement of their defence industries and the standardisation of their weapons and equipment. The USSR also directly supplied large quantities of modern equipment, specially favouring the critical Northern Tier with its deliveries. (107) These deliveries included

(107) Ibid., pp.115-116.
T-55 tanks, self-propelled anti-aircraft guns, amphibious personnel carriers, the M10-21 and SU-17 aircraft. (108)

The total number of troops maintained by the Soviet Union's Warsaw Pact partners did not change significantly during the first years after Khrushchev's retirement; however, troop reductions were undertaken by Hungary and Rumania. The GDR, Czechoslovakia and Poland contributed some 600,000 men organised into 35 divisions to the alliance total of 850-900,000 men and 62 divisions. The Northern Tier states provided 1,700 of the 2,400 Eastern European combat aircraft, while Poland and the GDR also commanded most of the alliance's non-Soviet naval strength. (109)

As well as working to improve the quality of the Pact as a fighting force, the Breshnev-Kosygin leadership also attended to various problems and disputes arising within the alliance. The question of Warsaw Pact costs appeared to occupy many of its members, with the Soviet Union's allies less than fully satisfied with the appointment of the Eastern European contribution to the maintenance costs of Soviet troops stationed in the region. The Soviet Union was concerned with the expense of its nuclear contribution to the Pact and its modernisation and improvement programme for alliance forces. (110) Khrushchev's decision to supply his European allies with tactical missiles


(109) Ibid., p.484.

(110) Ibid., pp.485-486.
and aircraft capable of delivering nuclear strikes probably raised the issue of access to nuclear warheads within the Warsaw Pact. In addition to discussion of the access issue, there was also some degree of pressure upon the Soviet Union to admit its allies to a greater role in the planning of their common nuclear strategy, as well as to a part in the decision-making process on the use of nuclear weapons during a future war. This latter point reflected concern, at least on the part of Rumania and Czechoslovakia, over the possibility of either their unwitting involvement in a nuclear war or the danger of their being left without nuclear defences in the face of a serious western challenge. (111)

Finally, there was some dispute over the Warsaw Pact command structure which, at the time of Mr. Khrushchev's retirement provided little opportunity for Eastern European participation in the policy and decision-making processes of the alliance. Rumania and Czechoslovakia again appeared to express the most vocal demands for return. Rumania called for the appointment by rotation of both Eastern European and Soviet officers to the rank of supreme commander of Warsaw Pact forces. Czechoslovakia's

Lt. General Vaclav Prehlik proposed the assignment of Eastern European military officers to positions throughout the alliance structure, as well as a commitment by all Pact countries to forswear the use of force against any other alliance member or the stationing of troops on the territory of any member without its consent. General Prehlik also favoured the strengthening of the Pact's Political Consultative Committee and the encouragement of contributions on military doctrine from all Pact signatories. The Soviet Union firmly rejected the General's views which were, in any case, set aside by the events of August 1968 in Czechoslovakia.\(^{112}\)

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The massive growth of American nuclear capabilities underway since the early 1960s undoubtedly served as a potent stimulus for the re-examination of Soviet defence policy and the major build-up of the USSR strategic forces during the latter half of the decade. The all but first-strike proportions of the United States strategic advantage had already sharply restricted the options open to Soviet peacetime policy in such traumatic episodes as the crisis over Cuba in 1962(113) and clearly promised a terrible catastrophe for the USSR in the event of a future war. The vigorous programme of ballistic missile deployments initiated by the Kennedy Administration was halted in the mid-1960s only to be followed by Defence Secretary Robert McNamara's approval of the deployment of Multiple Independently Targeted Re-entry Vehicles, a development which promised a dramatic increase in an already awesome offensive capability. (114)


The tremendous surge in American strategic nuclear power can be seasonally identified as a major source of the USSR's firm determination to modify its defence policy, eventually ending the Soviet Union's status as the military and political inferior of the United States. This underlying determination required the rejection of 'minimum deterrence' and the development of strategic capabilities which could provide a credible deterrent to and defence against American attack, as well as supplying the military wherewithal required for the effective pursuit of the foreign policy interests of an acknowledged superpower. (115) The all but overwhelming proportions of American force levels, certainly open to a first-strike interpretation of US intentions by Soviet analysts, may also have urged the abandonment of Mr. Khrushchev's confident assessment that nuclear technology had largely ended the risk of a general war. Regardless of American intentions, with the achievement of a four-to-one advantage in ballistic missiles by 1964/65, nuclear warfare was at least a far more realistic option for the United States than for its greatly inferior adversary.

While the existence of vastly powerful opponent stimulated important changes in Soviet policy, much as the anticipated emergence of the USSR as a major nuclear power had significantly

(115) 'Statement of Dr. Thomas W. Wolfe', Before sub-committee on Strategic Arms Limitation Talks of the Senate Committee on Armed Services, op. cit., pp.61-63.
modified American planning, the policy which eventually followed upon the Soviet conviction that the USSR's strategic inferiority was no longer acceptable did not represent an emulation of US doctrine, nor did it reveal careful attention to the performance of sensitively precise reactions to American deployments. Indeed, Soviet defence policy of the late 1960s largely demonstrated a commitment to the principles and objectives of a long-established declaratory doctrine which Mr. Khrushchev, though laying the technological foundations for the deployments of his successors, had not chosen to honour in operational terms.

In the face of an American doctrine which labelled the concept of nuclear 'war-waging' as a dangerous delusion and proclaimed 'war-avoidance' through 'Mutual Assured Destruction' as the only national basis for the Soviet-American relationship, the Soviet armed forces stubbornly asserted the military utility of strategic weapons, establishing that very utility as the only reliable foundation for deterrence and the only guarantor of survival in the event of war. Far from accepting the complete futility of 'war-waging', during the later half of the 1960s the capacity to wage nuclear war successfully (success being defined in terms of at least national survival), emerged as the basis of the Soviet Union's operational, as well as its declaratory, strategic doctrine. In such circumstances, the American concern with strategic 'parity' found no place within
Soviet doctrine, while the attainment of some variety of superiority appeared to be at least a topic for serious discussion.\(\text{(116)}\) Rejecting 'parity' and 'assured destruction' as the measurement of its strategic requirements, the USSR did not develop an alternative standard other than that level of forces necessary to assure the survival of the Soviet Union in any future war. Indeed, the Soviet conception of 'victory' during this period appeared to be defined in terms of the survival of the USSR as a 'recuperable national entity' able to negotiate the end of a general war and proceed to recovery from its affects in a reasonable time.\(\text{(117)}\)

With effective 'war-waging' accepted as the underlying principle of strategic planning, the Soviet Union was also unable to share the American condemnation of ballistic missile defence as inherently 'destabilising' and as clear evidence of a first-strike intention. Protection against the potentially shattering ICBM assault of which the United States was capable was no more than an essential part of the ability to wage nuclear war in the defence of the Soviet homeland. Similarly, the USSR did not recognise any obligation to avoid deployments


\(\text{(117)}\) Ibid., pp.81-82.
which might suggest a counterforce, rather than a counter-city, emphasis in its targeting strategy. Just as the capacity for strategic defence was regarded as an essential element in 'war-waging' and, therefore, required for both deterrence and defence, a capability to attack some proportion of an enemy's strategic forces was an indispensable element in deterrence and damage limitation. (118)

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Soviet Strategic Deployments

The 'collective leadership' very probably embarked upon the post-Khrushchev period with any precisely defined concept of the USSR's force level requirements or the long-term relationship to be achieved with the United States. The overall levels eventually attained during this period were influenced by several factors of which one was undoubtedly the conviction that the massive accumulation of American strategic nuclear power required a major expansion of Soviet capabilities. As well as influencing overall force levels, a number of individual Soviet weapons deployments can be associated with specific US actions. The heavy Soviet investment in ballistic missile firing submarines was probably encouraged by the highly advanced example of the American Polaris programme. (119) The installation of cruise missiles aboard Soviet submarines, while perhaps originally related to the technical problems involved in producing workable SLCMs, was also motivated by the existence of large American surface force in general, and a powerful US carrier force in particular. The efforts to improve the USSR's antisubmarine warfare capability giving rise to the first appearance of antisubmarine helicopter carriers, can also be credited to the sub-surface aspect of the American seaborne nuclear threat. The emergence of a system

of ballistic missile defence was also probably related to the vast offensive capabilities of the United States. Finally, the extensive Soviet commitment to air defence can also be charged to the maintenance of a significant force of US strategic bombers.

While acknowledging that the actions and deployments of the United States undeniably influenced the quantity and the character of its adversary's strategic forces, it is equally clear that Soviet force levels and force structure were subject to a number of non-responsive factors. Rejecting the American doctrine of 'Mutual Assured Destruction' and the concept of 'parity', Soviet force levels were affected by those strategic objectives which the USSR established for itself, chiefly the capability to wage nuclear war with a degree of effectiveness which would at least assure national survival. Some notion of strategic superiority may also have been a factor in the calculation of requirements, along with a traditional Russian tendency to seek security through the accumulation of large quantities of manpower and armaments, 'over-insuring' against the full range of possible contingencies. (120)

Beyond the overall level of Soviet forces, several individual development and deployment decisions were also affected by factors which did not stem directly from American sources.

For example, the Soviet decision to develop the Fractional Orbital Bombardment System appears to have been the product of an independent technological initiative which the United States did not attempt to pursue. The possibility of developing multiple warheads would seem to have been under discussion in the Soviet Union from at least the early 1960s. Although the American multiple warhead programme may well have encouraged Soviet interest in this highly significant refinement of warhead technology, the multiple warhead programme was also prompted, as in the United States, by indigenous research into the design of offensive and defensive weapon systems. (121) The maintenance of some 700 to 750 medium and intermediate-range ballistic missiles marked a feature of Soviet force structure which was shaped by the historic Soviet concern with the European theatre rather than an intercontinental threat. The decline in the number of the USSR's strategic aircraft was based upon the independent judgement that the ballistic missile offered a far more effective delivery system. Finally, while it is clearly possible to find justification for Soviet measures designed to improve the USSR's defensive capabilities in the actions and deployments of the United States, the Soviet Union's

traditional emphasis on strategic defence also supported the programme for anti-missile and anti-aircraft defences. In the case of the Galosh ABM system the deployment decision was probably further encouraged by the anticipation of a primitive Chinese missile capability in the foreseeable future. (122)

After several years in which Soviet strategic doctrine and defence policy had displayed a heavy missile-nuclear bias, largely dismissing the possibility of anything less than a full-scale conflict between the superpowers, the late 1960s witnessed a modification in the declaratory views and operational policy of the USSR on the limited war issue. The feasibility of a non-nuclear conflict between east and west was acknowledged and the Soviet need for something resembling the American 'flexible response' capability was asserted. Nevertheless, the danger of escalation in any such superpower clash was thought to be very high, particularly in the European theatre and it was generally expected that operations which began at the non-nuclear level would rapidly grow to include nuclear weapons.

As with the growth of the USSR's strategic nuclear capability, it is probable that the expansion of the Soviet Union's general purpose forces during this period and the emergence of a concept akin to the American 'flexible response' doctrine was encouraged by the build-up in American general purpose forces, and the commitment of the Kennedy Administration
to a 'flexible response' policy. (123) In addition to encouraging a somewhat intensified interest in the possibility of conventional conflicts, the still predominantly nuclear emphasis of Soviet writings on theatre operations, their concern with the execution of a rapid offensive advance and the development of heavily armoured highly mobile forces, were clearly related to the persistent nuclear bias in NATO strategy, despite efforts to increase US conventional forces. (124)

Finally, the frequent post-war American demonstrations of the value of general purpose forces in the service of superpower interests around the globe urged the USSR to expand its non-nuclear forces and to extend its military reach.

Granting that conventional planning was probably influenced by western actions, the return of the general purpose forces to a place of prominence in Soviet doctrine and policy, correcting the aberration of the Khrushchev period, was also supported by the weight of military tradition, and the domestic influence of the Soviet Army. The still critical significance of the European theatre in Soviet thinking and the requirements of the USSR's military and political interests in the region strongly pressed for high conventional force levels. The events of August 1968 in Prague provided an example of the indispensability of well trained, highly mobile ground forces for purposes other than resistance to western attack. (125)


(124) Ibid., pp.457-458.

(125) Ibid., pp.462-464.
The very serious deterioration in Sino-Soviet relations clearly offered another powerful motivation for the strengthening of the USSR's ground armies. Finally, the newly intensified emphasis on 'war-waging' in Soviet policy also assisted the rise in the fortunes of the nation's non-nuclear forces. On the ground in Europe and in Asia, deterrence and defence was best secured by a demonstrated capacity to wage war.

Sea Power

The policy of the 'collective leadership' affecting the Navy largely represented a continuation of the improvement in the status and strategic role of sea power which had been underway for many years. From a much inferior naval force confined to the defence of the seaward flank of the ground forces during the 1950s, the growing capabilities and operational sphere of the Soviet Navy eventually produced a powerful sea-going fleet with modern warships on permanent patrol at points far distant from the Soviet homeland. The motivation for this gradual progression stemmed in large part from the threat of western naval forces in general and the growing American seaborne nuclear capability in particular. During the latter half of the 1960s, it was essential for the USSR to expand the operational scope of
its fleets in order to permit strikes against US attack carriers and nuclear submarines equipped with aircraft and ballistic missiles of improved range and effectiveness.

The very formidable American strike forces not only encouraged the outward thrust of the Soviet Navy but also advanced the development and deployment of several weapon systems capable of attacking the US Navy before the launch of its offensive forces had been accomplished. The systems assigned to the anti-carrier and anti-submarine missions included cruise missiles aboard nuclear and conventionally powered submarines and the appearance of the anti-submarine helicopter carrier, a class of ship which may itself have owed something to the American attachment to carriers albeit of a very different design and function. (126)

The necessity of breaking the sea-link between the European members of NATO and their major transatlantic partner, provided a further motivation for increased Soviet naval power. In addition to the critical need to meet the danger posed by the US Navy and to sever allied communications, the clear example of American fleets as an effective instrument of US global policy also argued for the development of a naval force which would permit the projection of Soviet power and influence over the world's oceans.

Finally, the upsurge in sea power war also motivated by the considerable growth of Soviet merchant fleet, a merchant navy requiring protection from the United States and/or other opponent capable of jeopardising the maritime interests of the USSR. (127)

However, while recognising that the development of the Soviet Navy through the late 1960s roughly paralleled the growth of western naval power, particularly in its nuclear aspect, (128) the USSR failed to emulate the 'balanced' structure of western navies, preferring to persist in its emphasis on sub-surface forces, and to expand its inventory of surface vessels with relatively light ships suited to Soviet needs and objectives. (129)


Soviet Defence Policy and the
'Action-Reaction' Process

The succession of the Brezhnev and Kosygin leadership did not result in any radical transformation of Soviet declaratory doctrine during the period 1964-1967/68. Those changes which were introduced chiefly concerned the scale of the defence effort applied to strategic requirements and objectives which had long formed a part of Soviet doctrine. In other words, the latter half of the 1960s brought relatively little change in the fundamentals of Soviet declaratory doctrine, while, nevertheless, introducing important modifications in defence policy and weapons programmes, modifications largely based upon the principles of an established doctrine which Mr. Khrushchev had supported with only relatively 'minimal' deployments.

The collective leadership shared Khrushchev's conviction that a Soviet-American war would prove a terrible disaster and that a policy of detente with the west was to be pursued. They also accepted the view that a strategy of nuclear deterrence offered the most reliable means of preventing a general war. Further, although both Mr. Khrushchev and his successors entrusted Soviet security primarily to the USSR's strategic nuclear forces, both the former Premier and the 'collective leadership' also recognised the need for conventional forces. However, granting that many of Khrushchev's assessments remained
in effect during the late 1960s, the former leader's belief that nuclear weapons had entirely revolutionised warfare and transformed the Soviet-American relationship, clearly did not survive into the second half of the decade. Instead, Mr. Brezhnev and his colleagues appeared to accept the armed forces' judgement that nuclear weapons had neither eliminated the danger of a future war, nor reduced the concept of 'war-waging' to suicidal nonsense. On the contrary, strategic weapon systems were regarded as instruments of war and not merely as the mainstay of deterrence. Full-scale conflicts could still be effectively waged and 'won', at least in terms of assuring national survival. Peacetime strategic advantages were still to be had; perhaps even some margin of militarily significant superiority could be achieved.

In such circumstances, the best guarantor of deterrence and the only responsible policy in the face of the still real danger of war, was the demonstrated capability to wage nuclear war successfully, with success or 'victory' defined in terms of national survival. In short, it might be asserted, without gross over-simplification, that credible deterrence and effective defence were seen in terms of an 'assured survival capability'. Such a capability obviously demanded the complete rejection of 'minimum deterrence' and a major expansion of the USSR's defensive, as well as its offensive forces, firmly reconciling defence and deterrence. This expansion was not only to secure the physical safety of the USSR but was also to
provide the means by which the Soviet Union could be established as a fully qualified superpower, the military and political equal of the United States. Finally, the Brezhnev-Kosygin leadership also departed to some degree from Khrushchev's position in expressing greater concern for the possibility of non-nuclear and even tactical nuclear war, a danger which demanded a substantial increase in Soviet conventional military capabilities in both Europe and Asia.

The origins of the Brezhnev-Kosygin defence policy in this period were, of course, mixed. The need for a revision of policy and the subsequent build-up in Soviet capabilities across the board was clearly demonstrated by the vast proportions of American military power. The requirement for expansion was to a lesser extent also motivated by the growing hostility of Communist China. In addition to urging an expansion in overall force levels, individual American deployments very likely encouraged a number of Soviet deployments which, to some degree, represented 'reactions' to a constantly changing American 'threat'. Further, Soviet policy affecting the nation's conventional and nuclear forces clearly bore a resemblance to American doctrine of the early 1960s, perhaps qualifying as 'delayed emulative reactions' to US strategic planning. However, the modifications in Soviet doctrine and policy which underlay the expansion in the USSR's forces were firmly rooted in established declaratory doctrine. In other words, the new emphasis on 'war-waging' and survival,
the serious consideration given to superiority and 'victory',
the recognition of strategic defence as, perhaps, the highest
military priority - and the acknowledgement of the need for
powerful general purpose forces - were determinations based
upon Soviet historical and doctrinal precedents which
Mr. Khrushchev had fully observed only in declaratory terms.
The United States and the Soviet Union: Strategic 'Cross-Over'

The United States and the Soviet Union, having begun the 1960s with widely divergent conceptions of the nature and requirements of deterrence, ended the decade with significantly modified but still sharply dissimilar interpretations of the concept. At the outset of the Kennedy Administration the United States embarked upon an expansion of its armed forces designed to provide policy-makers with 'usable' military power as the central pillar of deterrence and the basis of national defence. By the late 1960s, the American commitment to effective defence had been greatly reduced in favour of a policy of 'war-avoidance'. Deterrence was regarded as the product of the mutual vulnerability of each of the superpowers to a retaliatory strike from the other. The certain knowledge that nuclear war would inevitably bring catastrophic destruction to the urban areas of both the Soviet Union and the United States was established as the foundation of 'stable deterrence'. The preservation of a clear second-strike capability on each side required their mutual acceptance of the principle of strategic 'parity' and their common awareness of the dangerous affects of the 'action-reaction' process, as well as their mutual abstention from the deployment of missile defences or any other weapon systems which might suggest a 'destabilising' counterforce, rather than a countercity targeting emphasis.
In sharp contrast, by the late 1960s the Soviet Union had moved from a position which was marked by an all but exclusive concentration on deterrence and 'war-avoidance' to a posture which was entirely incompatible with any deterrence concept requiring the USSR's recognition of its inevitable, indeed fatal, vulnerability to American attack. Deterrence was instead thought to be most effectively and prudently expressed in terms of a clear capability to 'wage war' with a degree of success which would, at least, assure the survival of the Soviet Union as an organised society.

With survival as the standard of force requirements, such alien concepts as 'parity' were of little or no relevance to Soviet planning. Soviet force levels were to be established as the level likely to maximise the probability of the USSR's survival following a nuclear attack. Further, such strategic advantages as might appear to be attainable, in either quantitative or qualitative terms, were not to be automatically sacrificed to the latest issue of American 'rules' governing the superpower relationship. As a critical part of any survival capability, the deployment of ballistic missile defences was seen as essential and the suggestion that anti-missile missiles were tainted by some inherently destabilising quality was rejected. Similarly, the American ban on counter-force weapons as a threat to the stability of deterrence was also foreign to a strategic doctrine which did not clearly differentiate
between counterforce and countercity targeting, and which chose to design targeting strategy in accord with the requirements of its central 'war-waging' objective.

In short, beginning from very different points, by the end of the decade each of the superpowers might be said to have 'crossed-over' to the position occupied by the other at the outset of the decade, with America shifting from the Kennedy concentration on 'usable force' to an all but exclusive devotion to deterrence in the Johnson-McNamara's years; as the USSR proceeded from Khrushchev's heavily deterrence oriented posture to a strong emphasis on nuclear 'war-waging' under Brezhnev and Kosygin.
PART IV

COMPETITION and ACCOMMODATION
Chapter 1

The United States and Missile Defence
Ballistic Missile Defence

Sentinel

The United States invested billions of research dollars in the development of a defence against ballistic missile attack during the 1950s and much of the 1960s without choosing to acquire an antimissile system. In large part the deployment of an antiballistic missile (ABM) defence was postponed because of the enormous technical problems involved in destroying one ballistic missile with another. The tremendous cost of a large scale ABM system had also persuaded three presidents to defer deployment. The emergence of the American doctrine of 'Mutual Assured Destruction' during the mid-1960s also provided a strong doctrinal obstacle to missile defence. With 'stable deterrence' founded upon 'mutual vulnerability', any weapon system promising to reduce the vulnerability of urban areas to nuclear attack was prohibited as destabilising. Nevertheless, despite the technical, economic and doctrinal objections to missile defence, and a long record of personal opposition to the ABM on the part of Secretary of Defence Robert McNamara, on September 18, 1967 Secretary McNamara announced that the Administration of President Lyndon Johnson had decided to recommend the deployment of antimissile missiles to 'insure against the possibility of a Chinese
attack in the next decade'. The proposed system, labelled Sentinel, (formerly Nike-X) was to provide a 'thin' area defence with approximately fifteen missile batteries and radar sites and was intended to shield the entire nation from a 'light' missile attack. Sentinel was to comprise a long-range missile, Spartan (formerly Zeus) and a short-range, high speed weapon Sprint, designed to eliminate any warheads which might elude Spartan.

Sentinel was to serve primarily as a deterrent to a Chinese missile attack, or, deterrence failing, it was to reduce American casualties by destroying Chinese warheads. Speaking of the danger of a Chinese strike, Secretary McNamara said: 'It would be insane and suicidal for her to do so, but we can conceive conditions under which China might miscalculate. We wish to reduce such possibilities to a minimum'. Should Sentinel fail as a deterrent, McNamara estimated that the system could save five to ten million lives. Facing a Chinese attack undefended in the late 1970s, McNamara advised: 'Our fatalities would be between five and ten million; and with the kind of defence that we will put in, the fatalities would range from almost zero to something less than a million'.

(2) NYT, December 3, 1967, Section VII, p.55.
(4) Ibid.
(5) NYT, September 26, 1967, p.5.
The Soviet role in modifying American ABM policy was not clearly stated, perhaps because of fears that public discussion of Sentinel as a defence against Soviet attack would jeopardise Administration efforts to negotiate an arms control agreement with the USSR. (6) Robert McNamara's speech announcing Sentinel did note that a 'concurrent benefit' of its deployment would be 'a further defence of our Minuteman sites against Soviet attack and protection of our population against ... accidental launch of an intercontinental missile by any of the nuclear powers'. (7) Nevertheless, the Secretary continued to repeat his opposition to the deployment of a 'thick' anti-Soviet area defence. Even the construction of a 'heavy' system costing $40 billion would be ineffective, he explained, as it would compel the USSR to increase its ICBM forces in order to assure its ability to penetrate US defences. The net result of a large scale American ABM deployment would be a further escalation of the arms race, at vast expense to the United States, without any improvement in American security.

The Pentagon chief noted that deterrence was the key to American nuclear strategy and that this objective could be achieved by maintaining a level of ICBM strength sufficient to devastate an enemy, even after the United States had absorbed a first-strike. (8) Speaking of the expansion of Sentinel into a 'thick' anti-Soviet area defence, McNamara said: 'I know of nothing we could

(6) NYT, November 13, 1967, p.10.
(7) NYT, September 19, 1967, p.18.
(8) NYT, September 24, 1967, Section IV, p.7.
do today that would waste more of our resources or add more to our risks' (9)

If Sentinel had no role as an anti-Soviet area defence, certain of McNamara's remarks in 1967 seemed to concede the possibility that it might eventually develop into a point defence of American ICBM sites against a Russian strike. In the Secretary's words: 'The Chinese oriented ABM deployment would enable us to add as a concurrent benefit a further defence of our Minuteman sites against Soviet attack'. (10)

He further advised:

We had no choice but to take some additional steps to maintain the adequacy of our own deterrent. We considered a number of alternatives .... We reached the conclusion that one of the most effective steps we could take and the one least likely to force the Soviets into a counter-reaction was the deployment of an ABM system, which would protect our Minuteman sites so that our own deterrent is not diminished. (11)

Testifying before a Congressional committee, the Director of Defence Research and Engineering, Dr. John S. Foster, Jr., indicated that no final decision had yet been reached on the assignment of Sentinel to the defence of US deterrent forces. In the view of another witness, Paul H. Nitze, Deputy Defence Secretary: 'The deployment of the Sentinel permits us at any

(9) NYT, September 24, 1967, Section IV, p.7.
(10) NYT, November 13, 1967, p.10.
(11) Ibid.
time within a year to make a decision on whether or not we want to defend the Minuteman silos'. (12) The Pentagon did little to clarify the relationship between Sentinel and the Soviet 'threat' when in November of 1967 it stated that the defence of Minuteman was to be a part of Sentinel's responsibilities, while also declaring: 'The decision as to when the incremental defence for Minuteman should be deployed does not have to be made at this time'. (13)

In June of 1968, after having first introduced Sentinel as of 'marginal' significance and as a 'thin' anti-Chinese defence, the Johnson Administration described the system as 'essential to national security'. The Administration and its Senate supporters also argued against a Congressional move to postpone the ABM on the grounds that it was necessary to defend Minuteman against a massive Russian assault. (14)

The Nixon Review

In 1969, the first year of the Nixon Administration, the Johnson ABM deployment decision was taken under review. While the fiscal 1970 budget inherited from President Johnson requested $1.8 billion for Sentinel, (15) in February of 1969 the new Administration ordered a temporary halt to the Sentinel programme announcing a one month review of all 'major weapons systems'

(13) Ibid.
In order to determine the most effective American response to the Soviet threat. (16) In the course of this re-assessment a number of policy options were considered, including the construction of Sentinel as planned and the complete reversal of the deployment decision. The installation of a close-in ABM to protect America's strategic offensive forces was also considered as either an addition to the Sentinel area defence or as a substitute. Nixon planners also examined the deployment of a 'thick' defensive system designed to reduce the number of US casualties substantially in a future war. Such a system would have attempted to shield perhaps twenty-five to fifty-two urban areas, as well as the nation's strategic forces. (17)

During the re-examination of the ABM question, the Joint Chiefs of Staff (JCS) modified their collective view on the antimissile missile. In the past they had repeatedly recommended the construction of a heavy missile defence designed to protect at least twenty-five of the nation's largest cities against a full-scale Soviet attack. While it was reported that the chiefs still favoured an extensive system, the JCS agreed to accept a less ambitious programme in order to present a united Administration front in support of an ABM deployment. The first break in their commitment to a nationwide city defence was said to have come with the decision of the Air Force Chief

of Staff, General John P. McConnell and the Chief of Naval Operations, Admiral Thomas H. Moorer to approve a light ABM deployment. In the past General McConnell had conceded America's inability to fend off a full-scale Soviet strike; but he had continued to argue for a comprehensive antimissile system as a means of dramatically reducing American losses in a major war. Secretary McNamara had consistently rejected this view, maintaining that even an extensive ABM deployment would prove ineffective as it would surely provoke the USSR to an expansion of its offensive forces. In opposition, the Joint Chiefs had asserted that there was no convincing evidence indicating that a Soviet counter-deployment was likely. Nevertheless, in 1969 the nation's senior commanders declared their support for a light antimissile deployment.(18)

Safeguard

After the conclusion of the official review of the US strategic posture, President Nixon announced the cancellation of the Sentinel. The President also rejected any suggestion of a rapid increase in America's offensive capabilities or further increases in the blast resistance of American ICBM silos.(19) Instead, on March 14 Mr. Nixon proposed the deployment of an

(18) NYT, March 18, 1969, p.l.
(19) NYT, March 15, 1969, p.l.
antiballistic missile system, designated Safeguard, which differed in design from the Sentinel scheme. The Johnson ABM proposal assigned five long-range PAR's (Perimeter Acquisition Radar) to the surveillance of the north Polar region. Only these PAR sites were to be equipped with the short-range Sprint weapon. Fifteen or twenty long-range Spartan missiles were to protect several population centers across the nation against either a 'light' Chinese attack or an accidental Soviet ICBM launch. The location of ABM launchers close to major cities was intended to provide for the development of relatively sophisticated Chinese penetration devices in the 1980s. With the progress of Chinese warhead technology the short-range Sprint missile was to join Spartan in the city defence role. One or two of the Sentinel installations were also to guard against an attack by submarine launched missiles. (20)

The Nixon Safeguard programme eliminated all ABM sites planned for the defence of urban areas with the single exception of an installation to be emplaced near Washington D.C. Safeguard was primarily intended to protect America's second-strike deterrent force. The President announced that initially construction would begin on only two ABM complexes, one assigned to the defence of Malstrom Air Force Base in Montana and the other to Grand Forks Air Force Base in North Dakota. Both were to become operational in 1973. Each of these sites was to be

(20) NYT, March 15, 1969, p.17.
armed with Spartan and Sprint missiles and equipped with FAR and MSR systems. Safeguard could be expanded to include twelve installations in defence of Minuteman and strategic bomber bases as well as command and control centres. However, the President emphasised the flexibility of the Administration's missile defence programme. It would be re-examined annually. 'Each phase of the deployment', the President said, 'will be reviewed to insure that we are doing as much as necessary but no more than that required by the threat existing at that time'.(21)

Mr. Nixon listed three motivations for Safeguard. It was to guard against 'any attack by the Chinese Communists that we can foresee over the next ten years'. It was also to combat 'any irrational or accidental attack from the Soviet Union', and to protect the nation's deterrent force which, Mr. Nixon described, as 'increasingly vulnerable due to the advances made by the Soviet Union since the year 1967, when the Sentinel programme was first laid out'.(22) Commenting on the Chinese 'threat', Defence Secretary Melvin Laird said: 'I believe that we do not want to become hostages of the Chinese at anytime in the future'.(23) Admitting that this support of an anti-Chinese system marked a change in his personal position, Mr. Laird explained: '... my mind had been changed ... on the basis of the evidence that has been submitted to me. I am more concerned about that defence (against the Chinese threat) than

(22) NYT, March 15, 1969, p.1.
I am about any other kind of defence at the present time'.

The President argued that **Safeguard** could very significantly reduce the fatalities resulting from a Chinese nuclear attack in the 1970s. Mr. Nixon also spoke of the danger of an accidental missile launch involving only a very few ICBMs and the possibility of unauthorised launch ordered by a deranged Soviet or Chinese commander. Against such 'light' assaults, the President claimed, **Safeguard** could reduce American casualties to a minimum. More importantly, **Safeguard** was required to assure the credibility of America's deterrent in the face of mounting Soviet strength.

Describing the growth of Soviet capabilities, the President noted that the Russians had already emplaced a missile defence system around Moscow. They had deployed massively powerful ICBMs with Minuteman killing warheads, greatly expanded their SLBM strength and advanced the development of a semi-orbital nuclear weapon system.

In presenting his own proposal, Mr. Nixon offered a brief Critique of the **Sentinel** system. He opposed any attempt to defend urban areas as a practical impossibility and as a development which the Soviet Union would probably regard as highly provocative. **Sentinel** had over-emphasised city defences,

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while de-emphasising the defence of the deterrent. Speaking of Safeguard, the President said:

The (new) programme also does not do some things which should be clearly understood. It does not provide defence for our cities and, for that reason, the sites have been moved away from our major cities. I have made this decision with regard to this particular point because I found that there is no way, even if we were to expand the limited Sentinel system which was planned for some of our cities to a so-called heavy or thick system, there is no way that we can adequately defend our cities without an unacceptable loss of life. The only way that I have concluded that we can save lives - which is the primary purpose of our defence system - is to prevent war. And that is why the emphasis of this system is on protecting our deterrent, which is the best preventive for war. (29)

Not only would a city defence prove ineffective but the President also feared that Sentinel 'could be misinterpreted as the first step toward the construction of a heavy system' and a first-strike capability. (30) By contrast, Safeguard could only be interpreted, Mr. Nixon held, as entirely 'defensive', as it did not attempt to reduce the Soviet capability to devastate US cities. With their retaliatory capability unaffected there would be no need for the USSR to increase its offensive strength. The President asserted:

(30) Ibid.
The Soviet retaliatory capability is not affected by our decision. The capability for surprise attack against our strategic forces is reduced. In other words, our programme provides an incentive for a responsible Soviet weapons policy and for the avoidance of spiralling US and Soviet strategic arms budgets. (31)

Soviet Capabilities and Intentions

Throughout 1969 the Administration offered a persistent, if not entirely consistent defence of its assertion that Soviet strength, both offensive and defensive, had reached proportions which required an American ABM deployment. There was also a less than fully consistent assessment of Soviet capabilities and intentions. Mr. Nixon warned that current estimates of Soviet strength were 60% higher than those calculated at the time Sentinel was first announced. (32) Reviewing the overall situation, Secretary Laird warned:

'Based upon the best information available, as Secretary of Defence I must conclude that the Soviet Union has the capability of achieving by the mid-1970s superiority over the presently authorised and programmed forces of the United States in all areas - offensive strategic forces, defensive forces and conventional forces'. (33) He rejected as guesswork the claim that the Soviet Union would soon slow its military

(31) NYT, March 15, 1969, p.l.
(32) NYT, April 19, 1969, p.l.
(33) NYT, April 26, 1969, p.l.
build-up. In the area of offensive weaponry the President and his Defence Chief were unsettled by a number of developments in the USSR. Mr. Laird asserted that the Russians were pursuing a 'crash programme' to overtake the US advantage in nuclear submarines by 1974-1975. While the American Polaris fleet remained awesomely powerful, because of 'new things that have taken place', Secretary Laird seriously doubted whether Polaris would continue to be 'very free from attack' after 1972. The Soviet Union was also said to be deploying a semi-orbital nuclear weapon or Fractional Orbiting Bombardment System (FOBS). FOBS' most distinctive characteristic was its ability to strike under the view of long-range radar and was, therefore, especially useful in destroying bombers on airfields. This technique was thought to be of little use in anything other than a first strike strategy.

The Administration regarded the advances in Soviet ballistic missile capabilities as particularly disturbing. Dr. John S. Foster estimated that by 1975 perhaps only one-tenth of the American missile force could be relied upon to survive a Soviet assault, perhaps 'fewer than 100' ICBMs. Dr. Foster's prediction was based upon the Soviet deployment of 500 SS-9 ICBMs by 1975, each tipped with at least three.

(36) NYT, March 15, 1969, p.17.
(37) NYT, April 14, 1969, p.1.
warheads. The Deputy Secretary of Defence, Mr. Packard, warned that America would require 'several hundred' surviving Minutemen to perform the retaliatory mission. He spoke of the need for a missile defence, saying: 'The reason we must start now is very simply because if we accept the estimates made by the Intelligence community on the Soviet capabilities with their large SS-9 missiles and the construction of their large Polaris-type missile launching submarines, then we have to accept the possibility that the Soviet, in the 1975-time period, will be able to destroy most of our Minutemen and catch our bombers on the airfields before they can take off'.

Dr. Foster calculated that with a 20% failure rate a force of only 420 SS-9s, each armed with three warheads, would suffice to deliver a shattering blow against Minutemen. With each warhead estimated at five megatons and capable of detonating within a quarter of a mile from target, the Soviet SS-9 force could destroy approximately 95% of American missile silos, leaving only fifty Minutemen intact. In addition to the SS-9 itself, the Administration was also troubled by Soviet research into the development of Multiple Independently Targeted Re-entry Vehicles (MIRV). Dr. Foster noted that the USSR would probably deploy MIRV during the latter half of 1970. The President warned that by 1973 80% of the Minuteman force -

(38) NYT, May 12, 1969, p.15.
(40) NYT, August 6, 1969, p.1.
the backbone of the American second-strike deterrent -
would be 'in danger' from Soviet MIRV. Mr. Nixon advised:
'ABM is needed particularly to meet that eventuality'. (41)

Soviet First-Strike Capability

Despite the Administration's apprehension over the SS-9
there was considerable disagreement within the American
intelligence community as to its significance. The controversy
touched upon several issues, including the size of the SS-9
warhead, with estimates running from five to twenty-five
megatons. The rate of deployment was also in dispute. The
Administration projected a force of 500 by 1975, while others,
including former Defence Secretary Clark Clifford, produced
lower figures. Observers also differed over SS-9 accuracy.
Deputy Secretary Packard held to a six-tenths of a mile
estimate, while some intelligence sources attributed much
less impressive capabilities to the SS-9. Finally, and
perhaps most importantly, there was much discussion of the
motives behind the deployment of the SS-9. On this point even
the position of the Administration seemed to be uncertain. (42)
While some contended that the evidence was insufficient to
establish Soviet intentions and others believed that the USSR
was only attempting to build a secure second-strike force,

(41) NYT, June 20, 1969
equal to that of the United States, throughout much of 1969 Melvin Laird chose to accept the most pessimistic of all interpretations of Soviet intentions. He asserted that the inspiration for mounting Soviet deployments was the acquisition of a first-strike capability. 'The Soviets', Mr. Laird said, 'are going for a first-strike capability and there is no question about it'.

Based on the size of the SS-9 warhead, as estimated by Laird (twenty-five megatons) and the Secretary's assessment of SS-9 accuracy, the Defence Chief declared: 'This can only be aimed at destroying our retaliatory force'.

'If the Soviet threat turns out to be as the evidence now indicates, an attempt to erode our deterrent capability', Laird declared, 'we must be in a position to convince them that a first-strike would always involve unacceptable risks'.

The added protection of Safeguard was the least the United States could do, in Laird's opinion, to assure that a Soviet first-strike remained an impossibility during the mid-1970s.

Mr. Laird supported his first-strike judgement of Soviet intentions by arguing that there was no other plausible explanation for the deployment of a weapon of the SS-9 type in


the numbers projected for 1975 (500). This force appeared especially threatening as each SS-9 was to be armed, according to Laird, with either/twenty to twenty-five megaton warheads or three to four warheads of four to five megatons each, amounting to a total force of perhaps 2,000 re-entry vehicles. (46) The Secretary reasoned that there was no need for such an arsenal if the Soviet objective was the destruction of large 'soft' urban targets. It was, however, well suited to the destruction of siloed Minutemen in a massive first-strike.

Despite these confident assertions, the Pentagon's first-strike charge was questioned on several grounds. Many commentators recalled the relatively recent judgement of Dr. Alan Enthoven, former Assistant Secretary of Defence for Systems Analysis, that 'the SS-9 was built for a second-strike purpose', (47) and were sceptical about the dramatic change in the official American understanding of Soviet intentions. Further, the current Secretary of State, Mr. William Rogers, appeared to disassociate himself from the Defence Department's first-strike fears, explaining that he did not believe that the USSR would ever contemplate an attack upon the United States. (48) It was also reported in June of 1969 that the American intelligence community did not believe

(48) NYT, April 8, 1969, p.3.
that the Soviet Union was attempting to develop a first-strike
capability but was more likely working to achieve 'parity'
with the United States or perhaps a marginal advantage. The
US Intelligence Board, chaired by the Director of the Central
Intelligence Agency, Richard Helms, warned that the 'desire'
to develop a first-strike posture existed in some Soviet policy
circles but insisted that neither a firm first-strike policy
commitment, nor the means of its fulfilment were expected to
emerge in the USSR during the foreseeable future. This
assessment, although appearing to contradict Mr. Laird's views
did not do so directly as it was only intended to apply to
the next two or three years, the Secretary of Defence had
discussed the possibility of a Soviet first-strike capability
in the mid-1970s. (49)

In 1969 Mr. Laird qualified his initially confident first-
strike charges. Testifying before the Senate Foreign Relations
Committee, the Secretary appeared to moderate his interpretation
of Soviet intentions and capabilities. Refusing to speculate
on whether the USSR was actually conducting MIRV tests, he
nevertheless warned of the Soviet development of at least a
multiple warhead designed to detonate its three re-entry vehicles
in the variable triangular pattern of a Minuteman site. He
also told the committee that in earlier statements he had only
meant to warn that the USSR was deploying a 'first-strike weapon'

(49) NYT, June 18, 1969, p.1.
in the SS-9, rather than positively asserting a Soviet commitment to the acquisition of an overall first-strike capability. (50)

The development of Soviet missile defence was also said to have played a part in the Safeguard deployment decision. The USSR had in fact completed about three-quarters of a 100 launcher ABM complex around Moscow. It was feared that the Soviet Union intended to expand this Galosh system into a massive deployment which would seriously compromise America's 'assured destruction' capability, thereby imperilling the basis of the US deterrent. (51)


(51) NYT, March 2, 1969, Section IV, p.2.
Safeguard and Arms Control

In the course of the great national debate which arose in the United States over the ABM issue it was frequently charged that an American missile defence system would further escalate the 'arms race' and jeopardise the cause of arms control, a charge which the Nixon Administration rejected. (52) Speaking of his ABM proposal, the President said: 'The system is truly a Safeguard system, a defensive system only. It Safeguards our deterrent and under these circumstances can in no way, in my opinion, delay the progress which I hope will continue to be made toward arms talks ...'. (53) Far from accepting the claim that Safeguard would endanger arms control, the Administration took a directly opposing view. Melvin Laird argued that Safeguard would instead improve the prospects for successful arms talks, serving as a 'building block to peace'. (54) In January of 1969 Secretary Laird warned that a reversal of the ABM deployment decision would place US arms negotiations in a 'weak position'. (55) In March he insisted that an ABM would be 'an added incentive to negotiate a meaningful agreement on the limitation of both offensive and defensive weapons'. (56) In short, Safeguard

would advance the cause of arms limitation by serving as a 'bargaining chip' in future arms talks.

As the debate over Mr. Nixon's ABM proposal proceeded through the Senate, Administration advocates gradually withdrew from the argument that the system was necessary to ward off the development of a Soviet first-strike capability. It was instead frequently asserted that the President must not suffer a defeat, undermining his prestige, just as the United States was to enter the Strategic Arms Limitation Talks (SALT). In brief, the official case for Safeguard became progressively more political and less military. (57) At about this time, former Vice-President Hubert Humphrey revealed that a desire to 'quicken' Soviet interest in arms talks had been a major reason for President Johnson's approval of Sentinel. (58)

(57) NYT, July 13, 1969, Section IV, p.12.
The Expansion of Safeguard

As 1969 drew to a close the Nixon Administration was privately considering the expansion of its ABM system beyond the two sites already approved by Congress. The advocates of expansion noted the continuing development of Sino-Soviet missile forces and argued that if a Safeguard system of suitable capabilities was to be in place by the mid-1970s, its enlargement had soon to be proposed. (59) Although the President had already decided to support an expansion of the Safeguard system by early 1970, Mr. Nixon ordered an eleventh hour review of Pentagon proposals. This re-examination was reportedly undertaken largely as a result of concern over Soviet reaction to the suggested increase. (60) Within the Administration a number of alternatives were examined. The cancellation of the entire programme was at least formally considered and rejected. Cancellation would have been acceptable only if an arms agreement had already been concluded, or if the Soviet 'threat' to American security had halted its growth. A clear demonstration of serious technical flaws in Safeguard would also have brought a cancellation. The completion of the two sites under construction, followed by extensive testing and a reassessment of US defensive requirements was also considered. This, too, was rejected because of the Administration's concern over the rate of Soviet strategic development, as well as the

(59) NYT, December 21, 1969, p.43.
probable deployment of Chinese ballistic missiles. The White House also decided against the development of any alternative systems. (61)

The Pentagon presented a number of specific expansion proposals to Mr. Nixon but generally campaigned for increased protection for Minuteman, coupled with a 'thin' nationwide defence against a countercity strike of the type of which China was expected to be capable by the mid-1970s. Within the National Security Council a city defence system was opposed by arms control officials. (62) They warned that such a deployment with its obvious potential for growth would alarm the Soviet Union more seriously than the original Safeguard conception. It was pointed out that a 'light' deployment could be transformed into a heavy city defence system simply by the addition of a large number of short-range anti-missile missiles to the sites proposed for defence against a Chinese attack, a development very likely to bring a major increase in Soviet ICBM strength and a virtual end to any possibility of negotiating limitations on Soviet-American strategic forces. (63)

(63) Ibid.
The President Decides

When the Administration's decision on the expansion question was announced, it appeared to accept the Pentagon viewpoint in large part. Congress was asked to approve funds for the extension of Safeguard protection to sites at Whiteman Air Force Base in Missouri and Warren Air Force Base in Wyoming, as well as to authorise preliminary work on four other sites intended to provide Safeguard with the capability of defending against a light Chinese attack. A decision on the deployment of another ABM site in Washington state was postponed. The Defence Secretary described the proposed Safeguard additions as the minimum 'we can do and must do'.

In defence of Safeguard's expansion the Nixon Administration offered a number of justifications. Probably the most important of these was the growing Soviet 'threat' and the belief that an inadequate American response to that growth would have highly damaging affects upon the effort to reach an arms control agreement with the USSR. Secretary Laird warned that if the Soviet Union continued the increase in its strategic weaponry, the USSR might well be able to achieve the capability to destroy the US Minuteman force at an earlier date than he had previously estimated (1974). In the Spring of 1969 Mr. Laird had estimated that the Soviet Union commanded 'more than 230'...

(64) NYT, July 31, 1970, p.11.
(65) NYT, February 26, 1970, p.15.
SS-9s and that they would have deployed 420 by 1974. A force of this size, armed with three-part multiple warheads, Laird argued, might provide the Soviet Union with the capability to destroy 95% of the 1,000 US Minutemen. In 1970 the Secretary regarded these predictions as overly 'conservative'. He now felt that an SS-9 force of 420 to be a possibility within two or three years. He also believed that by the end of the year the USSR would dispose of 25% more land-based missiles than the United States. Mr. Laird noted that during the preceding five years the Soviet Union had 'virtually quadrupled' its total megatonnage:

... the US has reduced its megatonnage by more than 40% .... For the best part of five years the United States has virtually been in neutral gear in the deployment of strategic offensive forces, while the Soviet Union has worked into high gear in both deployment and development of strategic nuclear weapons. (69)

The Russians were credited with 1,290 operational land-based ICBMs at the end of 1970, marking an increase of 200 missiles in twelve months. They were also thought to be developing a more accurate warhead for the SS-11, the weapon comprising more than two-thirds of the Soviet ICBM force. The USSR was also said to have built twelve new Y-class nuclear

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(68) NYT, February 19, 1970, p.28.
(69) NYT, April 21, 1970, p.1.
(70) NYT, February 19, 1970, p.28.
American intelligence estimated that the Soviet Union planned to deploy a fleet of thirty-five to forty Y-class submarines in four to five years.\(^{(71)}\) The USSR was also credited with a two-to-one superiority over the United States in total deliverable megatonnage, although America retained its advantage in the number of warheads. The Soviet Union was also said to be ahead in ABM deployment, with the system around Moscow already operational.\(^{(72)}\)

In the face of such strength and in the absence of any arms agreement, Mr. Laird saw an increase in US offensive forces as the only alternative to Safeguard. Congressional approval of Safeguard's expansion would, the defence chief said, enable the Administration to postpone for at least a year 'hard decisions about adding to our offensive systems'.\(^{(73)}\) President Nixon's effort at persuasion on behalf of an ABM expansion did not extend to the charge that the USSR was attempting to achieve military superiority over America, critically endangering the nation's deterrent posture. However, he did warn that world opinion would turn against the United States if the Soviet Union should attain strategic superiority. 'If the Russians pass us, if we become the second power', Mr. Nixon said, 'world opinion moves toward the support of the strongest power'.\(^{(74)}\)

In addition, to the importance of the anti-missile expansion as a counter weight to Soviet missile power, the Administration also continued to argue for Safeguard as necessary to assure the success of SALT. Officials asserted that the ABM was the development which the Russians were most eager to stop and as such, Safeguard represented the only real inducement for the Soviet Union to agree to limitations on the SS-9. (75) Unilaterally to slow US defensive programmes, despite the pace of Soviet offensive deployments, would seriously reduce the pressure on the Soviet leaders to conclude an arms agreement. (76)

China was also offered as a justification for Safeguard expansion. The Pentagon did not assert, as it did in the Soviet case, that the Chinese missile programme was accelerating beyond earlier projections. It did, however, observe that the Chinese effort was '... a year further along the road'. (77) While Secretary Laird predicted that Peking would begin flight testing their first ICBM in 1970, he did concede that their missile programme appeared to be having some difficulties. The first ICBM test had been forecast for 1967. Nevertheless, the Chinese were expected to develop a fully operational ballistic missile within three to six years. The Defence Secretary warned that rapid progress could place ten to twenty-five ICBMs in

Chinese hands by 1975. By the same date they could also acquire 80 to 100 missiles with a 1,000 mile range. The Secretary estimated that twenty-five ICBMs tipped with three megaton warheads could kill 11,000,000 Americans. With Safeguard, Mr. Laird contended all of these weapons could be intercepted. (78) President Nixon spoke of anti-Chinese systems as essential to assure a 'credible' American foreign policy in the Pacific. The enlarged Safeguard, he said, would be 'virtually infallible' against a Chinese strike. (79)

(78) NYT, February 21, 1970, p.l.

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pp.188-200.
Strategic Sufficiency

The change in the American attitude to ballistic missile defence, marked an important modification in US policy. However, it did not signal any revolutionary reform of US doctrine. Safeguard was clearly designed to protect the American deterrent and not to deny the Soviet Union the secure second-strike capability to which it had an acknowledged right under the US doctrine of 'stable deterrence' through 'mutual vulnerability'. The basis of the American deterrent remained the undoubted capability of the United States to launch, under any circumstances, an offensive nuclear strike which would inflict entirely unacceptable losses upon the USSR (or the USSR and any combination of allies), losses which would at the very least equal those which the Soviet Union might be expected to inflict upon the United States. In the words of Deputy Secretary of Defence, David Packard, 'There is general agreement on what is needed to deter a deliberate attack. We need to assure the potential aggressor (that) if he strikes us, he will receive a retaliatory blow which will destroy him as a nation.'(80) The deployment of Safeguard was intended to secure this capability beyond any question.

While the underlying principles of American strategic doctrine remained in tact during this period, the Nixon

Administration's pronouncements on US doctrine were marked by a tendency to avoid the terms 'assured destruction' and 'massive assured destruction' in favour of the phrase 'strategic sufficiency'.

Discussing the Administration's conception of US strategic requirements, the President said:

"Our objective is to be sure that the United States has sufficient military power to defend our interests and to maintain the commitments which the Administration determines are in the interests of the United States around the world. I think sufficiency is a better term, actually than either superiority or parity'. "Parity", Mr. Nixon said, 'could lure either side into the belief that it has a chance to win'. "Parity" did 'not necessarily assure that a war may not occur'.

The President also dismissed superiority as a suitable term with which to characterise the American posture as it could create an impression of strategic inferiority in the Soviet leadership and 'spur them to new arms development'.

Despite the presidential effort to define the new Administration's strategic objectives, 'Sufficiency' remained an ambiguous concept. In his first press conference as

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Secretary of Defence, Melvin Laird declared the goal of American defence policy to be the development of 'sufficient power to deter the enemy'; but then added: 'I have not yet given up the idea of maintaining a superior force'. (83)

The Secretary appeared to imply that 'sufficiency' and 'superiority' were roughly synonymous. (84) In Mr. Nixon's first meeting with the press he also suggested that the difference between 'superiority' and 'sufficiency' was largely one of semantics. (85) While the definition of 'Sufficiency' was never precisely clarified, the early association of the concept with superiority probably had a good deal to do with Mr. Nixon's campaign pledge to preserve the position of the United States as the superior nuclear power. At least some observers at the time credited the President's occasional references to superiority to his domestic political circumstances, rather than to any serious commitment to strategic superiority as a policy objective. (86)

Whatever the original conception of 'Sufficiency' may have been, the policy of the Nixon Administration in its early

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(83) NYT, January 31, 1969, p.38.
(86) NYT, September 18, 1969, p.2; McGeorge Bundy, 'To Cap the Volcano', Foreign Affairs, October, 1969.
years does not appear to have been motivated by a desire to achieve a commanding strategic advantage over the USSR.

'Sufficiency' in practice appears to have amounted to a firm determination to deny superiority to the Soviet Union, rather than to establish the United States as the clearly superior power. (87) While the basic intention to refuse the USSR any significant advantage did not mark a departure from established US policy, Mr. Nixon rejected Robert McNamara's judgement that the maintenance of the capability to inflict a fixed level of destruction upon the USSR, as in the principle of 'assured destruction', represented a 'sufficient' capability. Instead, President Nixon apparently believed that America's destructive capability must, at all times, equal that of the Soviet Union. In other words, rather than accepting the view that the loss of perhaps 20% of the USSR's population would in any circumstances suffice to deter a Soviet attack, Mr. Nixon was persuaded that the USSR's development of forces adequate to destroy some 40% of America's population would demand that the United States immediately act to acquire an equivalent capability. (88) The Soviet Union


was not to be permitted to develop 'disproportionate' strength.

Finally, in the early days of the new Administration there was evidence that the heavy concentration on counter-city attacks which had characterised the 'Mutual Assured Destruction' doctrine was brought under review. This reconsideration was later to be reflected in a modification of US declaratory targeting strategy during Dr. James Schlesinger's tenure as Secretary of Defence. (89)

Sufficiency and US Strategic Force Levels

Under the 'Sufficiency' banner Mr. Nixon approved the development and deployment of several strategic weapons systems, some of which had been brought near to the deployment stage by the previous Administration. Perhaps the most distinctive affect of 'Sufficiency' on US force levels during this period was its stress upon developments which were not only designed to secure US second-strike forces from destruction but which were also intended to preclude any possibility of the development of Soviet destructive capabilities superior to those of the United States. In the words of Defence Secretary Laird, the Administration was determined; 'to prevent the Soviets from gaining the ability to cause considerably greater destruction than

(89) NYT, February 19, 1970, p.28; Times, March 1, 1974, p.5.
the United States could inflict in any type of a nuclear exchange. (90) The commitment to prevent the Soviet Union from acquiring 'disproportionate' strength reportedly resulted in a re-definition of the 'unacceptable damage' standard which involved a dramatic increase in the damage levels assigned to American strategic forces. (91)

MIRV

Probably the most significant of the additions to American capabilities during the first of Mr. Nixon's presidential terms was the deployment of MIRV atop the new Minuteman III and Poseidon missiles. These deployments promised to increase the number of independently targeted warheads from 3,550 in mid-1972 to 7,270-7,700 in mid-1977. This vast expansion was said to be necessary to counter Soviet ABM deployments. MIRV was also required to reinforce the American bargaining position in arms limitation negotiations which had begun in June of 1969. (92)

The United States began the operational deployment of

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(91) Coffey, Strategic Power and National Security, op. cit., p.15.

Minuteman III, replacing Minuteman I, at Minot Air Force Base (North Dakota) in June of 1970. (93) The new Minuteman is capable of delivering three independently targeted warheads of 200 kilotons over a maximum range of 8,000 miles. By 1972 200 Minuteman III were in service. A total force of some 550 was to be deployed by 1975. (94) In April of 1971 the first Poseidon SLBMs were deployed at sea aboard the Polaris submarine James Madison, (95) replacing a number of Polaris A-2 and A-3 missiles. Poseidon was armed with ten 50 kiloton warheads and was capable of a maximum range of 2,880 miles. By 1972 160 Poseidon were in service aboard ten Polaris submarines, with a total force of 496 Poseidon SLBMs planned for deployment aboard thirty-one nuclear submarines. (96)


(95) The Origins of MIRV, op. cit., p.17.

The Nixon Administration considered the expansion of American ballistic missile forces beyond the established total of 1,054 weapons, but decided against any increase in the number of US launchers, preferring instead to emphasise survivability and the deployment of independently targeted warheads. In 1972 the American arsenal of land-based ICBMs included fifty-four Titan II missiles, 300 Minuteman I and 500 Minuteman II missiles, along with 200 MIRV equipped Minuteman III weapons. During Mr. Nixon’s first four years as President, research was underway into the improvement of Minuteman III accuracy and warhead yield, as well as the development of a new large payload ICBM and a mobile ballistic weapon.

By 1972 the United States also commanded ten Polaris submarines armed with 160 Poseidon missiles, along with twenty-three nuclear submarines equipped with a total of 368 Polaris A-2 weapons (three 200 kiloton warheads each) and eight nuclear submarines mounting a total of 128 Polaris A-2 missiles. An effort to improve the blast yield and accuracy of the Poseidon warhead was in progress. At the same time:

time the United States also had begun the development of new SLBM types. These included the Undersea Long Range Missile System (ULMS I) or Trident I missile, with a range of 4,600 miles and tipped with a Maneuverable Re-entry Vehicle (MARV). Trident I was scheduled to begin deployment by 1978. In the same year the new Trident submarine was also to begin service. Trident, designed for a very deep operation, is to mount twenty-four SLBM launchers. By the mid-1980s, the Trident submarines are to be equipped with an SLBM of intercontinental range (7,000 miles), the Trident II.

The construction of a relatively small ballistic missile nuclear submarine type was also under study as a replacement for the Polaris/Poseidon fleet. Finally, the development of a submarine launched cruise missile was also initiated.

In 1972 the US Strategic Air Command disposed of 150 B-52 D/F aircraft and 240 B-52 G/H bombers. In 1969 the FB-111A medium-bomber was first deployed, reaching a force of some sixty-seven by 1972. By 1975 it was planned that American strategic airpower would comprise approximately 255 B-52 G/H and seventy-one FB-111 bombers, with all B-52 C/F aircraft placed on active reserve. The effectiveness of their force was to be greatly enhanced by the deployment (beginning in 1975) of twenty nuclear armed Short-Range Attack air-to-surface missiles (SRAM) aboard each B-52 with six aboard each FB-111. SRAM's deployment was to increase the targeting capability of the US strategic air force from some 500 to 600 targets to approximately 6,000. The early 1970s also brought research into the development of an air-launched cruise missile with a range of 1,750 miles, along with the B-1 supersonic bomber, intended to begin replacing the B-52 and FB-111 in 1978.

(103) Strategic Survey 1972, op. cit., pp.16-17.
Strategic Defence

The first of Mr. Nixon's terms of office in the White House was not marked by a notably vigorous air defence effort. The inventory of American interceptor aircraft fell to less than 600. The United States also commanded some 800 surface-to-air missiles on American territory. However, the Administration proceeded with the development of an Over-the-Horizon-B (OTH-B) radar system designed to track aircraft approaching at altitudes below the coverage of other radar systems. After winning Congressional approval for Safeguard the Administration began the construction of three ABM sites, with the battery at Grand Forks, North Dakota scheduled to become operational in 1975. Funds were also requested for the development of an alternative ABM system, Hard Site intended to provide a more economical and less vulnerable defence through a large number of smaller and less expensive radars.

General Purpose Forces

The Nixon Administration, like its predecessor, maintained the US attachment to a 'flexible response' capability. However, under the pressure of the now intensely unpopular Vietnam war, as well as worsening inflation and convinced that some reduction in the scope of American commitments was necessary, the first years of Mr. Nixon's leadership were marked by declining levels of military manpower and defence spending. These spending cuts fell with particular affect upon the nation's general purpose forces. The increasing constraints on US non-nuclear forces was reflected in the Administration's departure from the established American view - never really supported by operational deployments - that the United States required conventional forces capable of simultaneously conducting 'two-and-a-half' non-nuclear wars: major conflicts in both Europe and Asia, as well as a more limited emergency elsewhere. In future the United States was to prepare for only one great conventional involvement in either Europe or Asia. (109)

Nevertheless, Mr. Nixon's early years as President did bring many improvements in American conventional weapons including the development of a new main battle tank, XM-Z and

accelerated procurement of anti-tank missiles. The F-15 air superiority fighter was to become operational in 1976 and there was a considerable investment in defence-suppression weapons, electronic counter measures and remotely piloted vehicles. While the early 1970s brought reductions in the number of US Navy Combat ships, there was an effort to achieve higher qualitative levels and greater modernisation. The construction of a fourth nuclear powered aircraft carrier was approved. Thirty new DD-963 GM destroyers were scheduled to join the fleet in 1978 and five nuclear powered frigates were under construction. Twenty-seven additional nuclear powered submarines were also funded, along with new anti-ship missiles. (110)


Ballistic Missile Defence

Sentinel

The mixed origins of the Sentinel proposal do not permit any unqualified assessment of the decision to deploy an ABM system as exclusively the product of either external or internal influences. If the official justifications for the construction of a light city-defence is accepted, Sentinel cannot be considered an American reaction to the Soviet Union but must be identified as the product of American uncertainty over the strategic capabilities and intentions of Communist China. Although the danger of a Chinese attack on the United States appeared to be remote, it was apparently regarded as a possibility by the Administration. According to Morton Halperin, at work in the Pentagon as Sentinel was under study,

Mr. Johnson -

was, apparently, concerned about possible Chinese irrationality, having recently received a number of reports that the Soviets believed that the Chinese were dangerous. Thus an ABM against China, while not imperative, made sense to him. (111)

President Johnson's final decision was also influenced by Congressional pressure on behalf of an ABM deployment. In 1966 the Congress chose to express its support for missile defence

(111) Newhouse, op. cit., p. 84.
by appropriating $167.9 million for ABM procurement which the Administration had not requested. Despite White House reluctance to approve missile defence, the Congress continued to press for a programme of some kind through such influential figures as the Chairman of the Senate Armed Services Committee, Senator Richard Russell. (112) The approach of a general election in 1968 may have further encouraged the President to look favourably on ABM deployment, thereby avoiding the charge that he had entirely failed to provide for the protection of the American people against the most destructive of all weapon systems. Regardless of the President's personal views on the value of the ABM, a relatively small-scale system was at least of value in resisting persistent demands from Congress and the Joint Chiefs of Staff for other more ambitious defensive and offensive programmes which would almost certainly have provoked a major Soviet response and imperilled whatever possibility existed for arms negotiations with the USSR. (113).

Sentinel was also to some degree the consequence of the so-called 'ripening plum' affect or, in other words, the added momentum toward deployment which any such project receives from the judgement that the weapon under development represents a workable system. By the late 1960s, ABM research had reached a point at which a reasonably convincing argument could be made

(113) Ibid., pp.82, 97.
for the technical feasibility of antimissile operations, particularly when set against the level of Chinese capabilities. (114)

Although Sentinel was justified largely in terms of the Chinese 'threat', and was helped along the road to deployment by several factors unrelated to the Soviet Union, the accelerating growth of Soviet strategic capabilities generally, and the USSR's deployment of the Galosh ABM in particular, clearly played a significant role in the decision to construct a light city defence which would provide the basis for a more extensive defence of Minuteman and/or urban areas. Throughout his Pentagon career, Secretary McNamara opposed any deployment intended to shield American cities from a Soviet ICBM strike. Nevertheless, the Soviet deployment of Galosh and the much disputed Talin line, violating the US doctrinal ban on missile defence, inspired the conviction among many of McNamara's Pentagon colleagues, and many members of Congress, that some kind of American 'reaction' was necessary. Sentinel, in part, represented the fulfilment of this desire to 'react', albeit a most inappropriate response when considered against the magnitude of the Soviet Union's overall capabilities. (115)

In addition to Galosh, Sentinel was also advanced by the expansion of the USSR's offensive forces and, as always, by a very considerable margin of uncertainty about Soviet deployment plans. Finally, former Vice-President Hubert Humphrey later confirmed that the Johnson Administration also valued Sentinel

(114) Young, op. cit., p.188.
(115) Newhouse, op. cit., pp.73-74, 92.
as a 'bargaining chip' in the arms limitation negotiations which it was attempting to arrange with the USSR. (116) In his fiscal 1968 defence budget message to Congress, President Johnson specifically stated that the United States would not reconsider its ABM deployment plans unless there was some progress towards strategic arms talks. (117)

It might be said by way of an overall assessment of Sentinel's origins that, while the opponents of missile defence damned Sentinel as an entirely unwarranted escalation of the arms race without foundation in the actions of the Soviet Union or the relative strategic posture of the superpowers, by the late 1960s the Johnson Administration was persuaded, whether reasonably or not, that the prospect of China's emergence as a nuclear power and the rapid increase in Soviet force levels, added to the USSR's apparent disinclination to begin arms talks, required some kind of American 'reaction'. Further stimulated by a number of powerful domestic pressures, Sentinel was chosen to serve as an American 'reaction' to what was perceived as a growing Sino-Soviet 'threat'. However, when considered against the background of the actual level of Chinese development and the likelihood of an unavoidably suicidal Chinese attack, the objective need for an anti-Chinese defence does not appear compelling. Within the context of the Soviet-American relationship, the unsuitability of Sentinel as a defence against

a Soviet strike of almost any kind also demonstrates that as a 'reaction' to the USSR Sentinel represented a highly insensitive and imprecise response.

Safeguard

The decision of the newly elected Nixon Administration to abandon an area defence system in favour of a point defence of Minuteman missile sites followed a two year period in which the Soviet Union continued the expansion of its ICBM forces beyond the point of parity with the United States. Although Chinese missile development retained some degree of influence over American ABM policy, it was the growth in the USSR offensive capabilities which primarily moved the Nixon Administration to approve a system designed to protect the nation's deterrent forces. While many academic analysts rejected Safeguard as absolutely unnecessary for the maintenance of a devastating American second-strike, it was essentially the very considerable increase in Soviet strategic power achieved by 1969 which persuaded the White House to propose Safeguard, combined with the expectation that this increase would continue, possibly leading the USSR to a first-strike posture. Safeguard, like Sentinel, was also strongly recommended as a 'bargaining chip' in arms limitation talks with the USSR. Without at least a
prospective ABM capability supporting the efforts of US negotiations, it was expected that the Soviet Union would either be unwilling to enter discussion or prove to be a most intractable participant.\(^{118}\)

Whether or not the security of American retaliatory forces in 1969 actually demanded the deployment of Safeguard was a highly debatable and hotly debated point. However, the Nixon Administration's decision to deploy the system can be judged as an American 'reaction' to the unquestionable emergence of the USSR as a ranking superpower and the possibility of her eventual development of a significant margin of strategic superiority.\(^{119}\)

**Sufficiency**

The inspiration for the Nixon doctrine of 'Sufficiency' is not easily determined if only because the President and his senior colleagues never chose to define the concept clearly. 'Sufficiency', insofar as it can be distinguished from the doctrine of the Johnson-McNamara period, seemed to involve a departure from the view that deterrence could be reliably maintained by the capability to destroy fixed percentages of the Soviet Union's population and industry, with America's force levels adjusted only when necessary to maintain the established

\(^{118}\) Newhouse, *op. cit.*, pp.151, 156.

\(^{119}\) Young, *op. cit.*, p.194, n.51.
'assured destruction' levels. The Nixon Administration appeared to believe that credible deterrence required forces equal in their destructive capability to those of the Soviet Union, whatever the levels of destruction this might involve. The USSR was not to be permitted to develop the ability to inflict greater damage upon the United States than the United States could deliver to the Soviet Union in a second-strike.

This modification in American doctrine clearly did not qualify as a revolution in American thinking. Something, at least similar to 'Sufficiency's' concern with equivalence in destructive capabilities was involved in the Johnson-McNamara principle of strategic 'parity'. Nevertheless, 'Sufficiency' did represent a modification of policy and a modification which was fundamentally inspired by the expansion of Soviet missilenuclear forces. During the early 1960s, a period of overwhelming American superiority, there was no cause for the United States to consider the advisability of maintaining equivalent Soviet-American capabilities. From the moment of 'Massive Assured Destruction's' emergence as the basis of US planning, 'parity' between the superpowers was considered inevitable, indeed in a sense desirable, as a long-term objective; but the still significantly inferior level of Soviet nuclear forces and the expectation that American superiority would survive for several years, did not encourage any close examination of the
efficacy of 'assured destruction's' fixed standards. However, the unmistakable evidence by the late 1960s that the era of unrivalled US strategic advantage had finally ended, and the apprehension that perhaps even 'parity' might be endangered in the foreseeable future, urged the Nixon Administration to consider the adequacy of 'assured destructions' fixed measurements of US requirements and to emphasise the importance of maintaining Soviet and American destructive capabilities at equivalent levels.

Strategic Force Levels

The overall level of US strategic forces in the late 1960s and early 1970s was determined by several factors of which the American perception of a rapidly expanding Soviet 'threat' was surely one. The increase in the numbers of Soviet ICBMs from 1966-1969 was achieved at a deployment rate which equalled that of the United States in the period 1961 to 1963. (120) From 1965 to 1970 the USSR quintupled its ICBM arsenal, achieving a small numerical advantage by 1969 and almost tripled the number of its SLBMs. (121) While the United States retained a very substantial overall advantage, the quantity and the quality


(121) Ibid., pp.41, 44; Coffey, Strategic Power and National Security, op. cit., p.8.
of Soviet expansion - including as it did the allegedly first strike SS-9 missile - were taken as a sign of alarming uncertainty for the future of American deterrent forces.

In addition to the evidence of an already large-scale build-up in the USSR's strength and American projections of its future growth, US force levels were also affected by the requirements of a strategic doctrine which apparently defined effective deterrence in terms of the maintenance of roughly equivalent Soviet and American damage capabilities and which also required the preservation of a 'triad' of strategic delivery systems. Regardless of the perceived level of the Soviet 'threat', the Administration's actual freedom to exercise its judgement on a number of deployment decisions was constrained by the momentum of major weapons programmes which had largely completed their development by the end of the Johnson presidency. Bureaucratic and armed forces pressures, and the views and intentions of Congressional observers also contributed to such decisions as those affecting Safeguard and the B-1 bomber. Finally, the Administration's force level calculations were also affected by the development of a small Chinese nuclear arsenal and the continuing progress of a missile programme which was expected to provide Peking with a force of ten to twenty-five ICBMs, capable of killing perhaps seven million Americans by the mid-1970s. (122)

The multiple warhead concept was originally suggested to American planners by their own investigations into the design of offensive and defensive strategic systems. A subsequent developmental programme was encouraged by a desire to increase US targeting capabilities in a time when the United States was still firmly attached to a counterforce doctrine. The success of the MIRV/MHV research effort also argued strongly for the continued pursuit of this highly useful refinement in warhead technology by demonstrating that multiple warheads were technically feasible (the 'ripening-plum affect'). The decision in 1966 to deploy MIRV was, however, clearly influenced by reports of the Soviet deployment of the Tallin line and the Galosh ABM, as well as a highly disconcerting degree of uncertainty over Soviet ABM plans. By the time Mr. Nixon took office in 1969 large sums of money and a lengthy research effort had been invested in MIRV and the decision to deploy had already been taken. Although the new Administration’s deep concern over the massive increase in Soviet capabilities assured a warmly welcoming official reception for the actual start of Poseidon and Minuteman III deployment, any suggestion of cancelling the programmes at this very late stage in their development, regardless of the course of Soviet policy, was all but entirely inconceivable. Indeed, the deployment of MIRV was inevitable by the early 1970s and cannot be regarded as a direct response by the Nixon Administration to contemporary Soviet actions.

(123) Newhouse, op. cit., pp.64-65, 73-75.
American policy affecting strategic aviation did not essentially represent a response to Soviet actions in either the decision to reduce aircraft numbers or the commitment to preserve an air element as part of the nation's strike capability. The continuing decline in the numbers of US long-range bombers was the result of the American view that strategic aircraft did not compare favourably with ballistic missiles as an intercontinental delivery system. The maintenance of a significant bomber force, despite the shortcomings of aircraft, the development of SRAM and the B-1 bomber, were encouraged by the long-established view that the invulnerability of a deterrent force was best secured through the deployment of a 'triad' of delivery vehicles: ICBMs, nuclear submarines and strategic aircraft. The 'triad' concept and the SRAM and B-1 programmes in particular were, of course, also rigorously supported by the United States Air Force. (125) While American policy affecting long-range air power did not exhibit a high degree of sensitivity to Soviet actions, the relatively low-key US air defence effort indicated a continuing responsiveness to Soviet abstention from heavy investment in strategic aircraft.

US Commitment to Strategic Arms Limitation

During most of the postwar period the United States had established its military security upon the maintenance of overwhelming level of strategic nuclear superiority over any combination of potential enemies. This policy achieved a four-to-one advantage in ICBMs over the Soviet Union by the mid-1960s and brought the United States as near to a genuine first-strike capability as she was ever again to come. The staggering growth in US nuclear power was paralleled by only a peripheral American interest in the problem of arms control. Although President Johnson proposed a 'freeze' on Soviet-American strategic forces in 1964, this proposal and others like it were often motivated by the requirements of propaganda or by a desire to establish the enormous strategic advantage of the United States as a permanent feature of the Soviet-American relationship. The latter half of the 1960s were clearly distinguished by a major change in the American attitude to arms control. During the late 1960s, the Johnson Administration launched a serious though unsuccessful effort to enter into negotiation with the Soviet Union on the limitation of strategic arms. The inspiration for this significant development in US policy is not difficult to determine.

After years of apparently complacent acceptance of strategic


inferiority, in 1962 the USSR began its first major ICBM deployment. This was followed in 1964 by the succession of the 'collective leadership' and an accelerated build-up of Soviet military capabilities which achieved a steady erosion of US superiority. Added to the effects of America's declining relative strength, the now keen US interest in arms control was also encouraged by developments in American weapons technology which threatened a highly expensive and uncertain future for the Soviet-American strategic balance. Further, the demonstrated economic and technological resources of the USSR during this period clearly precluded any upsurge in American deployments which could be confidently expected to assure a secure future through the restoration of American superiority. Indeed, even with consistently heavy arms expenditures the United States could realistically expect to accomplish no more than the denial of superiority to the USSR - a major objective of the 'sufficiency' doctrine.

While the Nixon Administration was prepared to deny the Soviet Union any 'significant' advantage through increases in US force levels, such a process of conceivably endless expansion offered only a burdensomely costly and potentially hazardous means of preserving strategic stability. In these circumstances not only the ideal US posture - one of decisive superiority - was beyond reach, but even the basic requirement of American deterrence doctrine - the capability to achieve damage levels unacceptable to the USSR in a retaliatory second
strike, as well as levels comparable to those of which the Soviet Union was capable - appeared to be in some jeopardy.

With superiority permanently a thing of the past and the prospect of a disturbingly uncertain future, the United States was strongly motivated to attempt serious arms limitation talks with the Soviet Union. An effective agreement constraining the deployments of both countries could provide a means by which particularly dangerous and destabilising Soviet deployments, such as the SS-9, might be avoided. It could also offer an opportunity for controlling the already great and growing level of defence expenditure and for reducing Soviet-American tensions, a particularly important objective since the emergence of the Soviet Union as a fully qualified superpower.

Finally, should an arms control agreement fail in its 'war-avoidance' objective, it might at least moderate the disastrous consequences of a future conflict. (128)

The American Deterrence Concept and

The 'Action-Reaction' Process

The first of Mr. Nixon's terms as President of the United States did not bring any substantial reform of American strategic doctrine and defence policy. The emergence of 'Sufficiency' marked a change in declaratory terminology and perhaps a change in operational planning to the extent that 'Sufficiency' obliged the United States to act or 'react' in support of a level of destructive power equivalent to that of the USSR. However, the basis of American doctrine remained deterrence through the capability to inflict unacceptable damage upon the Soviet Union with a devastating second-strike. The modification in the previous Administration's ABM programme was designed to secure that capability and did not represent a departure from the long-established American view that 'stable deterrence' rested upon 'mutual vulnerability'. In short, the United States remained in what was essentially a 'war-avoidance' posture.

Those modifications in American policy which were introduced during this period, along with the decision to enter SALT, were in large part the consequence of the steady increase in the strategic power of the USSR, perhaps resulting in a greater degree of American responsiveness to Soviet actions than ever before. In the past, the evolution of American doctrine and
policy, producing such concepts as 'massive retaliation' and 'controlled response', had stemmed largely from domestic sources, representing internal influences, constraints and preferences, rather than changes urged or compelled by developments in the Soviet Union. However, the dramatic expansion of Soviet military power in the latter half of the 1960s clearly increased Soviet influence on American policy. 'Sufficiency' was not merely recommended by the judgement and preferences of Nixon planners or conveniently compatible with the domestic ambitions of the Nixon Administration. It was instead strongly urged by Soviet actions which had eliminated superiority as a practical objective and focused American policy on the need to maintain destructive capabilities equal to those of the Soviet Union, a requirement which had never demanded close attention during the long era of unrivalled US superiority. Similarly, in the past the resolution of the missile defence question had been repeatedly postponed in the assurance that the huge American advantage in offensive weapons could alone effectively deter the Soviet Union until such time as advances in ABM technology might recommend the feasibility of an antimissile deployment. In short, the question of an American ABM could be decided at the convenience of the United States. However, by the late 1960s, the level of Soviet offensive strength had greatly increased and was still increasing at a rate which persuaded the Pentagon that some
compensatory action was required, not to preserve the American people from attack, but merely to assure the survival of the US deterrent force itself.

Many of the weapons developments and deployments undertaken in this period were vigorously debated in the United States, coming under heavy critical fire from those who denounced Sentinel, Safeguard, Poseidon, Minuteman III, the B-1 bomber and other projects as absolutely without justification in the actions of the USSR. Indeed, with the possible exception of the ABM, the complex origins of these systems does not reveal any direct link between their development and the actions of the Soviet Union. Further, the urgent necessity of each of them for the preservation of a secure second-strike capability is certainly open to question. However, regardless of the objective need for or wisdom of any of the weapons programmes under development during this period, it is clear that the emergence of something like genuine 'parity' between the superpowers by the early 1970s perceptibly constrained the formerly expansive breadth of American latitude in shaping and re-shaping the form of its doctrine and the extent of its deployments, compelling the United States at least to attempt to fulfil its responsibilities under the 'action-reaction' principle more faithfully than it had even done before.
Chapter 2

The Soviet Union Retains 'War-Waging'
Strategic Doctrine

The early years of the 'collective leadership' of Leonid Brezhnev and Alexi Kosygin (1964-1967/68) resulted in a major expansion of nuclear and conventional forces which succeeded in bringing the USSR's operational capabilities into close alignment with the requirements of its long established declaratory doctrine. The period from the late 1960s to 1972, the year in which the United States and the Soviet Union signed the SALT I agreements, was largely concerned with the continued pursuit of objectives agreed soon after the retirement of Premier Khrushchev. It continued to be the Soviet view that a general war between the two superpowers would result in a terrible disaster for both sides. A Soviet-American war was therefore to be strenuously avoided through a strategy of nuclear deterrence, buttressed by a policy of detente. However, nuclear weapons retained their status as instruments of war, rather than serving solely as the servants of deterrence. Nuclear war remained a possibility,\(^{(1)}\) with the consequence that Soviet doctrine required the maintenance of capabilities which would assure the survival of the USSR in any future conflict. At the close of the 1960s, as in middle years of the decade, a

demonstrated capability to emerge from a full-scale nuclear exchange as a functioning society was not only expected to maximise the USSR's military advantages in the event of war, but was also believed to be essential in establishing the credibility of the Soviet Union's peacetime deterrent. (2)

Strategic Requirements

The late 1960s and early 1970s also recalled the first years of 'collective leadership' in failing to produce a precisely drawn theory of Soviet strategic requirements. Neither the American principle of 'parity' nor the 'assured destruction' doctrine were accepted as the standard of 'sufficiency'. Superiority was frequently discussed but never clearly defined. The writings of military commanders, particularly in the early days of the Brezhnev-Kosygin period, appeared to describe superiority in terms of forces capable of inflicting maximum damage upon the United States, while maintaining Soviet damage levels at a minimal level. Later discussions of the concept suggested that superiority required a

peacetime strategic build-up which would prepare the Soviet Union to 'win' a future conflict decisively. However, there is evidence to suggest that by the close of the 1960s some senior political leaders questioned the feasibility of 'winning' a full-scale thermonuclear war and believed that the USSR had already attained a position which largely fulfilled the nation's strategic requirements. (3)

If, as has been suggested in the west, the Soviet leadership began the accelerated expansion of its capabilities in the mid-1960s without a detailed plan of its ultimate objectives, (4) it is surely possible that the apparent confusion over strategic requirements during the late 1960s and early 1970s - (whether 'parity' or 'superiority' or something in between would suffice) - was the result of a failure to develop a broadly based political military consensus behind any single definition of the USSR's long-term requirements. Whatever the exact state of the requirements issue during the three or four years preceding the SALT I agreements, Soviet policy continued to pursue a build-up in strategic forces which was apparently designed to

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assure at least Soviet survival in any future war, as well as to achieve the greatest margin of strategic advantage obtainable, as expressed in numerical terms. These objectives obviously demanded an increase in force levels which would, at a minimum, establish the USSR in a position of full equality with the United States as a fully qualified superpower.


(6) Vincent, op. cit., p.12.
Although Soviet policy during this period remained largely consistent with the trends set soon after Mr. Khrushchev's retirement, the close of the 1960s brought a marked change in the official assessment of ballistic missile defence. For many years Soviet military commanders had maintained that antiballistic missiles were essential to both effective defence and credible deterrence, firmly rejecting the American charge that antiballistic missiles seriously threatened the stability of deterrence. When an ABM limitation agreement was proposed to Premier Kosygin during his visit to the United States in 1967, the Premier expressed little interest in any such arrangement. Former US Secretary of State Dean Rusk has said of Kosygin's response to the American reaction: "He replied in effect: How can you expect me to tell the Russian people that they can't defend themselves against your rockets". In 1965 General N. Talensky expressed the then orthodox Soviet view on missile defence:

From the standpoint of strategy, powerful deterrent forces and an effective anti-missile defence system, when taken together, substantially increase the stability of mutual deterrence .... In any case, there is the question: Which is preferable for security as a result of the arms race, a harmonious combination of active means of deterrence and defence systems, or the

means of attack alone? An exhaustive analysis of this can be made only on the basis of highly concrete military and technical data, but at any rate the side which makes a spurt in the means of attack will instantly expose its aggressive intentions and stand condemned as the aggressor with all the negative political consequences this entails .... As I have said, antimissile systems are purely defensive and not designed for attack. It is quite illogical to demand abstention from creating such weapons in the face of vast stockpiles of highly powerful means of attack on the other side. Only the side which intends to use its means of attack for aggression purposes can wish to slow down the creation and improvement of antimissile defence systems. (8)

However, despite the long record of Soviet support for missile defence as an important element in the policy of any peace-loving state, in 1969 forthright Soviet assertions on behalf of the peaceful and stabilising qualities of ABMs began to disappear from official Soviet statements. (9) Further, in the same year the Soviet Union agreed to enter the Strategic Arms Limitation Talks in which limitations on ABM deployments was to emerge as a central Soviet objective. Indeed, during the SALT negotiations the American delegation was reportedly struck by the deep Soviet aversion to large-scale ABM deployments, prompting one US participant to describe 'both sides' as making 'McNamara-like noises about the destabilising effects of ABM

(9) Ibid., p.194.
deployment; the Russians were surprisingly explicit on this point*. The apparent change in Soviet ABM attitudes was confirmed in 1972 by Mr. Brezhnev's signature of a treaty limiting the USSR and the USA to two ABM 'deployment areas'.(11)

The ABM treaty marked a noteworthy change in Soviet policy with regard to a single defensive system. However, it did not signal an acceptance of the US doctrine of 'Mutual Assured Destruction', the disentanglement of deterrence and defence or a return to Khrushchev's 'deterrence only' doctrine in which the inevitability of a 'society-destroying' American strike was accepted as the inevitable consequence of a future war. Instead, it remained the Soviet view that the ever present danger of a breakdown in deterrence required peace-time preparations for the effective defence of the USSR, assuring Soviet survival through the maintenance of offensive and defensive forces capable of waging nuclear war from a position of the greatest possible degree of effectiveness.

This unwavering conviction was reflected not only in the USSR's declaratory doctrine but also in the uninterrupted expansion of Soviet offensive forces, the continued development of a mixed targeting capability including both counterforce and countercity

(10) Newhouse, op. cit., p.173.

elements, and a heavy investment in air defence, anti-submarine warfare and civil defence. (12)

General Purpose Forces

The essential consistency of Soviet doctrine from the middle 1960s to the early 1970s was also demonstrated in the official assessment of the role of general purpose forces. Strategic nuclear war remained the overriding concern, and even a NATO-Warsaw Pact conflict was expected to involve the extensive use of battlefield nuclear weapons, nevertheless the earlier commitment to 'balanced' forces - nuclear and non-nuclear - was maintained, along with the pursuit of 'flexible' military capabilities. Acknowledging the possibility, if not the likelihood of a prolonged, large-scale conventional war, general purpose forces were to be prepared to wage and win any such conflict in Europe, as well as to meet any emergency on the Sino-Soviet frontier. These objectives were served by a continuing modernisation and strengthening of general purpose forces - particularly in the European theatre - and the further improvement and integration of Warsaw Pact forces. (13)


The development of the Soviet Navy also remained on the course set during the early 1960s. The expansion of the operational sphere of Soviet sea power was directed by a 'sea-denying strategy' designed primarily to defend the USSR against the US seaborne nuclear threat: Polaris submarines and strike carriers. The Navy was also to contribute to the Soviet offensive nuclear capability, as well as to secure its four fleet areas, assist ground forces operations and attack the enemy's surface shipping. Finally, the defence of a growing merchant fleet was also a matter of concern. Not only were these missions consistent with those assigned several years before, but the means adopted for their accomplishment also remained unchanged. Rather than construct a classically 'balanced' fleet on the western model, the traditional emphasis on subsurface forces was retained. However, as in the mid-1960s, modern surface ships suited to the Navy's 'sea-denying' mission were recognised as essential. (14)

During the period 1965-1970 the total number of Soviet ICBMs soared from some 300 to 1,300, surpassing the total US force of 1,054 in 1969. In 1970 the deployment rate began to decline, reaching 1,530 ICBMs in 1972. By mid-1972 Soviet ICBM forces included some 210 SS-7 Saddler and SS-8 Sasin missiles, each with a maximum range of 6,900 miles and a five megaton warhead. The number of SS-9 Scrap, which the United States found especially alarming because of its twenty to twenty-five megaton payload, totalled 290 by 1972. The SS-11, with a 6,500 mile range and a one-to-two megaton payload, made up the bulk of the USSR's ballistic missile forces, amounting to some 970 weapons by 1972. In 1968 the SS-13 Savage was introduced to the strategic forces. Capable of delivering a one megaton warhead over a range of 5,000 miles some sixty SS-13s were in service four years after its first appearance. (15)

Soviet policy affecting the USSR's ICBM forces not only reflected a dramatic upsurge in numbers but also achieved major qualitative advances. The highly vulnerable surface deployment of ICBMs was eliminated by the construction of underground concrete silos. (16) New missile types were introduced. The


SS-9, which appeared in 1965, was noteworthy for its massive payload, improving accuracy and developing multiple warhead capability. Further, SS-9 was first tested with the Fractional Orbital Bombardment System (FOBS) in 1967, a development designed to reduce an enemy's radar warning time by placing a nuclear weapon in a low orbit.\(^\text{(17)}\) The SS-11, first deployed in 1966, was being fitted with a more accurate warhead in 1970 and was also being deployed within a medium-range launch complex in the south-western region of the USSR, providing a flexible capability against both western Europe and the United States.\(^\text{(18)}\) The SS-13, a weapon similar to the American Minuteman, is noteworthy as a mobile solid-fuelled system. The SS-13 is transported on a tracked erector and launch vehicle (Scamp).\(^\text{(19)}\) Mobile systems were described as being of 'special importance' by Defence Minister Rodin Malinovskii in 1966.\(^\text{(20)}\)

Soviet weapons research during the late 1960s and early 1970s, promised the introduction of several new developments designed to increase Soviet missile capabilities very substantially. In August 1968 tests of a multiple re-entry vehicle (MRV) for the SS-9 began, involving three individual warheads of about five

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\(^\text{(17)}\) Erickson, \textit{op. cit.}, pp.42-43.

\(^\text{(18)}\) \textit{Ibid.}, p.42.

\(^\text{(19)}\) \textit{Ibid.}

megatons each. In July 1970 the SS-11 was also tested with MRV.\(^{(21)}\) Research into the development of a Multiple Independently Targeted Re-entry Vehicle (MIRV) was also underway and led to MIRV tests in 1973. Four new ICBM launchers were under development, all with greater accuracy than those systems already operational. The large liquid-fuelled SS-X-18 may be intended to replace the SS-9. It has been tested with five or six MIRV warheads of one megaton each and is estimated to exceed the SS-9's throw-weight by 30%.

The SS-X-17 and SS-X-19 are both liquid-fuelled and are capable of a throw-weight which surpasses that of the SS-11 by three to five times. In 1973 the SS-X-17 was tested with a single megaton warhead and with four MIRV. The SS-X-16, a solid-fuelled weapon, may be intended as a replacement for the SS-12 or as a prototype mobile ICBM. Believed to have a MIRV capability, SS-X-16 tests with MIRV had not been observed by the early 1970s. A decision to deploy three of these systems would increase the USSR's total ICBM throw-weight from its 1974 level of six to seven million pounds to ten to twelve million pounds and would also provide about 7,000 separately targeted warheads in the one megaton range.\(^{(22)}\)

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Missile Firing Submarines and S/LBMs

After a period of only very gradual expansion in the number of submarine launched ballistic missiles (S/LBMs) during the early and middle 1960s, the total force of Soviet S/LBMs expanded from 160 in 1969 to 280 in 1970. By 1972 the USSR disposed of some 560 S/LBMs aboard sixty-one submarines. This force included twenty-nine Y-class nuclear submarines, each armed with sixteen SS-N-6 ballistic missiles. (23) Nuclear powered and capable of the subsurface launch of its SS-N-6 missiles (one megaton warhead) over a range of 1,750 miles, the Y-class submarine provided the USSR with its first truly strategic seaborne delivery system in 1968. (24) In 1972 the D-class (Y-2 class) nuclear submarine joined the fleet, armed with twelve SS-N-8 missiles capable of delivering a megaton-range warhead over a distance of 4,800 miles. During the early 1970s work was also underway on a new SS-N-6 type bearing a MRV, along with a 400 mile submarine launched missile reported to be ballistic, the

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In 1972 the Soviet SLBM force also included ten H-ll class nuclear submarines and diesel powered G-ll class submarines, each fitted with three SS-N-5 Serb missiles. Twelve G-1 class diesel submarines were also armed with three SS-N-4 Sark missiles. The Serb carries a megaton range warhead to a distance of 750 miles, while Sark delivers a similar payload over 350 miles. In 1972 the Soviet Navy also commanded twenty-six E-class submarines and twenty-five diesel powered submarines of the J-class and W-class armed with four to eight SS-N-3 Shaddock missiles (450 mile range and kiloton range warhead). Of the total force of Soviet nuclear powered ballistic missile submarines, at least three were placed on patrol some 800-1,000 miles off the coasts of the United States. Most of the USSR's missile-firing submarines were assigned to the Northern Fleet and the Pacific Fleet.


(28) Erickson, op. cit., p.54.)
Medium and Intermediate Range

Ballistic Missiles

The total number of Soviet medium and intermediate range ballistic missiles (M/IRBMs) remained unchanged after the mid-1960s. It continued to include about 600 SS-4 Sandal MRBMs (1,200 mile range) and 100 SS-5 Skean IRBMs (2,300 mile range), each delivering a one megaton warhead. About half of this force was deployed at hardened sites and most were located in western Russia and targeted on western Europe, with perhaps seventy missiles deployed in the Turkestan and Far Eastern Military Districts and directed against China and Japan. (29)

Two new systems were under development in the early 1970s: the mobile SS-14 Scapegoat MRBM and the SS-XZ Scrooge IRBM. (30)

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Strategic Aviation

In sharp contrast to the USSR's ICBM and SLBM forces, the number of Soviet strategic aircraft declined during the late 1960s, falling from some 210 bombers in 1967 to about 150 in 1970. In 1972 the Long-Range Air Force included 100 TU-95 Bear bombers (equipped with the Kangaroo stand-off cruise missile) and forty Nya-4 Bison aircraft. A force of 700 medium range bombers composed of 500 TU-16 Badger (armed with Kipper long-range stand-off missile) and 200 TU-22 Blinder bombers was retained, with the latter aircraft (armed with the Kitchen missile) continuing to replace the older Badgers, Bears and Bisons. The prototype testing of the supersonic Backfire variable-geometry medium-range bomber was in progress. No heavy bomber type is known to be currently under development. (31) Despite the failure to expand the size of the strategic aviation it was apparently decided to retain long-range bombers as a part of the USSR's overall strategic capability. Testifying to the survival of a long-range air mission, in 1968 and 1969 heavy bomber training flights were conducted to the coasts of North America, Greenland, Labrador and the Aleutian Islands. (32)


Strategic Defence

Ballistic Missile Defence

In 1968 the construction of the SA-7 Galosh ABM system was halted after only some two-thirds of the work had been completed, perhaps as a result of technical difficulties or doubts as to the feasibility of the anti-missile mission. ABM research was, nevertheless, intensively pursued. By 1969 the sixty-four launchers of the Galosh system were either under construction or already operational. By 1970 each of the four complexes of sixteen relocatable launchers had achieved an initial operational capability, providing a 'thin' area defence for part of western Russia. Each of the four sites near Moscow is served by Try Add engagement radars. Phased-array Dog House radar is charged with target acquisition and tracking, while early warning is provided by phased-array Hen House radar on the frontiers of the USSR. The Galosh weapon itself is capable of a range exceeding 200 miles and mounts a nuclear warhead in the megaton range. Since the 1960s research has been underway into the development of an improved interceptor missile with a loiter capability, as well as second generation radars and asphalt cloud techniques designed to destroy or blunt the effectiveness of enemy warheads.

Air Defence

The long established Soviet concern with air defence was sustained during this period. In 1972 the Air Defence Command (PVO) disposed of some 500,000 troops and about 3,000 interceptor aircraft, including 1,060 MiG-17, MiG-19 and Yak-25 aircraft, 800 SU-9s. and 1,140 Yak-28P Firebar, Tu-28P Piddler, SU-11 Flagon A and MiG-29 Foxbat interceptors. The PVO also commanded 1,600 surface-to-air missiles including the SA-2 Guideline, SA-3 Goa for short-range defence against low-flying aircraft, the triple-mounted low-level SA-6 Gainful, designed to replace the SA-4 for battlefield defence against low-flying aircraft and the long-range SA-5 Griffon. Low-flying aircraft were also to be opposed by anti-aircraft artillery. (35)
The construction of the Tallin system of air defences gave cause for concern in the United States as American analysts debated its potential for development as a missile defence. (36) Soviet capabilities promised to be further improved by an Airborne Warning and Control System (AWACS). (37)

(36) Newhouse, op. cit., pp.73-75.
General Purpose Forces

The late 1960s and early 1970s also marked a continuation of the programme to prepare the USSR's general purpose forces to wage and win both large-scale conventional and nuclear conflicts. However, the emphasis remained upon the conduct of a rapid offensive by heavily armoured mobile striking forces supported by nuclear strikes.\(^{(38)}\) The ground forces benefitted from further deliveries of modern weapon systems designed to increase conventional firepower and mobility. Conventional artillery and armoured forces were strengthened along with tactical nuclear capabilities. In 1969 battlefield nuclear forces took delivery of the SS-12 Scaleboard, Short Range Ballistic Missile (SRBM). Scaleboard is armed with a warhead in the megaton range and has a maximum range of 500 miles. There was also a continuing effort to improve amphibious forces, as well as logistics and the quality of command and control. Large-scale exercises - Exercise 'Dneper' in 1967 and 'Dvina' in 1970 - tested conventional and nuclear capabilities. Tactical air forces were served by the introduction of new aircraft types including the MiG-21 Fishbed J.\(^{(39)}\) This on-going programme

\(^{(38)}\) Erickson, \textit{op. cit.}, p.73.

for the modernisation of the Soviet general purpose forces was accompanied by the continued modernisation and integration of the armed forces of the USSR's Warsaw Pact allies. Alliance members - particularly the 'northern tier' countries - received weapons and equipment deliveries which included tanks, armoured personnel carriers and tactical aircraft. (40)

Sea Power

The expansion of Soviet Naval capabilities was further pursued during the late 1960s and early 1970s. In 1967 the Kresta I missile cruiser entered service, to be followed by the Kresta II in 1969 and the Kara in 1972. Destroyer forces were strengthened by the appearance of the Krivak-class in 1971 armed with surface-to-surface, surface-to-air and anti-submarine weapons. In 1972 the Moskva helicopter carrier was joined by a second ship of its type, the Leningrad. (41)


Efforts were also underway to improve amphibious and naval air forces and to increase subsurface strength. In addition to a force of some 112 missile-firing submarines, the Soviet Navy also commanded about 34 nuclear powered and 210 diesel powered attack submarines in 1972. 

A new type of nuclear powered and torpedo armed submarine, the A-class first appeared in 1970, perhaps as a prototype development. Facing a critical danger from American subsurface forces, Soviet anti-submarine warfare capabilities continued to receive close attention, with the problem of detecting and destroying the US Polaris fleet charged to ASW aircraft, submarines and surface forces. The deployment of the Moskva and Leningrad helicopter carriers marked one noteworthy effort to improve Soviet ASW strength, along with an increase in conventional submarine construction. The effectiveness of naval forces were tested in combined fleet exercises in 1968 (exercise Sever) and in 1970 (Okean).

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(44) McGwire, 'Parallel Naval Developments; op. cit., p.135.

(45) Erickson, op. cit., pp.55-56.

Soviet Defence Policy and the 'Action-Reaction' Process

Expansion of Offensive Strategic Forces

The motives behind the continued expansion of Soviet strategic forces during the late 1960s and early 1970s were those which had originally inspired the build-up soon after the retirement of Mr. Khrushchev. The nation's political leadership continued to share the view of the armed services that the Khrushchev doctrine of 'minimum deterrence' had seriously imperilled Soviet security by failing to provide for either credible deterrence or effective defence. Indeed, its failure on the latter point had extended to the virtual concession of a first-strike capability to the United States. The USSR's minimal strategic nuclear deployments and its inadequate conventional strength had also proven inadequate for the effective support of Soviet foreign policy. Nothing short of a massive increase in force levels would suffice to end the USSR's 'hostage' position and establish the Soviet Union as at least the military and political equal of the United States.
Continuing American Advantage

The Soviet Union was often credited in the west with having already attained equality or 'parity' with the United States by 1969. However, it is unlikely that any objective Soviet analysis of the relative positions of the superpowers at the time could have confirmed this generous assessment. Even if 'parity' had been the exclusive concern of Soviet policy, the development of the USSR's strategic forces had not achieved even this objective by the end of the 1960s. By 1969 the Soviet Union commanded some 1,198 ICBMs, surpassing the American total of 1,054. However, Soviet analysts could not fail to be distressed by many of the other quantitative indications of the 'strategic balance'. In the same year, the US Navy disposed of 656 SLBMs as opposed to 128 roughly comparable Soviet SLBMs. The 'balance' at sea was made even more unsatisfactory by the still wide qualitative gap between Soviet-American SLBM technologies. The US Strategic Air Command also retained some 381 long-range bombers as against 140 for its opponent. These figures amounted to bomber-missile totals of 2,291 for the United States and 1,466 for the Soviet Union. They also represented deliverable warhead totals of 4,200 for the Americans, as compared with only 1,350 for the USSR. (47) In addition, to the discomforting 'imbalance' in

strategic systems, the US Navy also commanded a force of about 400 fighter bombers aboard its strike-carriers.

American deployment plans for the 1970s held out little hope for the achievement of superpower 'parity' without continued Soviet expansion. By November 1969 the US Senate had approved the ABM proposal of the Nixon Administration, perhaps jeopardising the only very recently achieved Soviet ICBM advantage. Although the total number of American land-based launchers had remained at 1,054 since the mid-1960s, the Polaris A-3 multiple warhead was already operational and was to be followed by the Poseidon MIRV in 1971. These developments alone promised to raise the number of American submarine launched warheads from about 1,500 re-entry vehicles, capable of attacking 656 separate targets, to over 5,400 warheads capable of striking about 5,000 separate targets. The beginning of Minuteman III-MIRV deployments in 1970 was to create a force of 550 ICBMs and with up to a total of 1,650 vehicles warheads. The number of re-entry, although important in itself, was made even more significant by the intensive efforts to improve the already high degree of warhead accuracy. (48) The effectiveness of US air power was substantially improved by the deployment of the Short-Range Attack Missile (SRAM) aboard America's B-52 and FB-111 bombers. Soviet planners were also

aware of several other US weapons programmes: a new long-range bomber, the B-1, air and sea launched cruise missiles, and major advances in the capabilities of American submarine launched ballistic missiles, including new generations of SLBMs and nuclear submarines. (49) Facing an American strategic advantage of still major proportions, the characterisation of the Soviet-American strategic relationship as one 'parity' in 1969-1970, implying that the USSR need press its development no further in pursuit of equality with the United States, was surely a highly optimistic judgement from the Soviet perspective and one which the USSR was most unlikely to accept.

Role of Strategic Doctrine in
the Expansion of Soviet Forces

In addition to the effects of US deployments on the continuing expansion of Soviet strategic forces, the build-up was also influenced by Soviet strategic doctrine which held to the view that deterrence and defence required force levels sufficient to assure the survival of the USSR in the event of nuclear war. Deployments calculated only to maintain a punitive second-strike deterrent were clearly inadequate by the survival standard. As such, mere 'parity' was not the ideal objective and some degree of superiority or advantage - at least in numerical terms - was required.

Although the enormous proportions of American strategic power very probably provided the most important stimulus for the dramatic acceleration of Soviet deployments during the 1960s, it remains a very difficult task to link individual Soviet weapon systems with specific developments in the United States. This difficulty is, to some degree, due to the fact that weapons deployed in the late 1960s trace their origin to the Khrushchev period and cannot, therefore, be regarded as direct response to contemporary American actions. More importantly the development and deployment decisions affecting many of the missiles types which entered service under the collective leadership were influenced by the requirements of the strategic doctrine and
objectives which Mr. Brezhnev and his colleagues chose to establish for themselves and were not simply undertaken to counter directly or emulate faithfully opposing American systems. For example, the commitment to a 'flexible', 'war-waging' or survival capability against a richly mixed enemy target complex, as well as the need to provide the USSR with forces prepared to meet 'local' emergencies in the European and Asian theatres encouraged the developments of weapons such as the SS-9 for destroying hardened military targets at strategic range, and others like the SS-11 appropriate for either 'local' or intercontinental countercity missions. The Soviet concern with European and Asian conflicts also assured the maintenance and improvement of medium and intermediate range ballistic weapons.

It has been suggested that the development of the SS-9 with its heavy payload and multiple warhead potential was prompted by the possibility that the United States would eventually choose to acquire antimissile defences. However, the development of the SS-9 with its three re-entry vehicle multiple warhead was not ideally designed for the penetration of the Sentinel city defence announced in 1967 and was in any case already available for testing in 1969 when the Safeguard hard-point defence was still under consideration. In short, the emergence of the SS-9 and its MRV (as well as FOBs) may have been advanced by Soviet uncertainty on 'worst plausible case' planning as to American ABM intentions, but does not appear to have been a
direct reaction to Sentinel or Safeguard. Soviet interest in the multiple warheads as reflected in the SS-9 MRV, may have been advanced by the great expansion in the US target complex during the first half of the 1960s and the example of American research into what were discretely described as 'penetration aids' until 1967. However, public Soviet reference to 'manoeuvrable warheads' as a 'future possibility' for penetrating missile defences date back to at least 1963 and may well have been suggested to Soviet weapons engineers, as in the American case, by their own research into offensive and defensive systems.

Finally, it might be noted that the desire for a flexible 'war-waging' was surely a more convincing explanation for the SS-9 than that offered by US Secretary of Defence Laird in his short-lived assertion that the SS-9 signalled a Soviet commitment to the development of a first-strike force. Unaffected by the requirements and prohibitions of the American 'Massive Assured Destruction' philosophy, the distinction between a first-strike counterforce and a second-strike deterrent posture was not clearly drawn in Soviet doctrine. Indeed, any effective

(50) Young, op. cit., pp.213-214; Erickson, op. cit., pp.43, 44, 48, 49.

deterrent or defence was seen to demand the capability to conduct a nuclear conflict, a requirement which obviously required the deployment of weapons capable of destroying the enemy’s most powerful and most heavily secured strategic installations.\(^{(52)}\)

**SLBM**

Submarine-launched ballistic weapons provide perhaps the only clear example of Soviet-American interaction in the area of strategic delivery systems. The United States enjoyed a clear lead over the USSR in missile-submarine technology which survived into the 1970s. By 1967 the US Navy disposed of forty-one Polaris submarines and 656 submarine launched ballistic missiles, while the USSR was entirely without any equivalent missile submarine system.\(^{(53)}\) The American seaborne nuclear capability armed the United States with subsurface strike-forces


\(^{(53)}\) *World Armaments and Disarmament*, *op. cit.*, p.106.
which could conceivably determine the outcome of a future conflict after the first missile-bomber attacks, weighing decisively in the 'post-exchange' balance. Although the development of a submarine launched missile had been underway in the Soviet Union for many years, the development of a missile submarine of genuinely strategic capabilities—the Y-class—was much advanced by the impossibility of allowing the United States to retain an advantage of potentially decisive significance. (54)

Strategic Defence
Ballistic Missile Defence

After many years in which successive American presidents had refused to approve the deployment of a missile defence system, in 1967 President Johnson proposed the Sentinel ABM programme to Congress. Technically Sentinel did not represent a complete reversal of American policy as it was designed to defend US cities against a 'light' Chinese missile attack, rather than to shield the United States from a full-scale Soviet strike. However, Sentinel's potential for development into a 'thick' city defence cannot have escaped the attention of Soviet planners, regardless of the official rationale for its deployment. Two years later, Sentinel was abandoned for a system specifically directed against the USSR. Safeguard was, nevertheless, said to pose no threat to the effectiveness of the Soviet Union's retaliatory capability, as it was intended to provide only a limited defence for the US Minuteman deterrent. However, despite American assurances, with Sentinel and Safeguard US policy embarked upon a major departure from its established position on missile defence, perhaps leading to the development of an extensive capability in an area in which Soviet technology was already unequal to that of the United States. Further, the shift in American ABM policy occurred in the midst of the USSR's determined effort to correct the long-standing imbalance
between Soviet-American force levels. In these circumstances, both the modification in the Soviet assessment of missile defence and the decision to enter arms limitation talks with the United States can be regarded as reactions to US policy, each inspired by a desire to prevent the deployment of a weapon system threatening to degrade the significance of the USSR’s newly acquired offensive strength and promising to increase substantially the numbers of Soviet ICBMs required to achieve either strategic equality or some margin of numerical superiority. (55)

Air Defence

Soviet policy affecting air defence was also linked to American actions. Although the role of the long-range bomber in US strategy had declined throughout the 1960s, in 1972 the United States retained 525 bombers in service. The air launched Short Range Attack Missile became operational in the same year. (56) Whether or not American observers were fully aware of the magnitude of the US bomber threat, (57) the Strategic Air Command consistently maintained formidable proportions from the Soviet perspective, encouraging a continuingly heavy investment in air

(55) Erickson, op. cit., pp.XI-XII.


(57) Newhouse, op. cit., p.75.
defence. However, the commitment to anti-aircraft systems was also supported by the still firm Soviet conviction that the effective defence of the USSR ranked as the first priority of the nation's armed forces. Unpersuaded by the American view that security lay in 'mutual vulnerability', air defence, along with a severely limited but still surviving antimissile capability, an intensive civil defence effort and a high, if possible superior, level of offensive forces, were essential to assure that defensive or 'war-waging' capability which could alone sustain a credible deterrent and assure Soviet survival in the event of war. (58)

During the middle 1960s the 'collective leadership' launched an effort to strengthen the USSR's general purpose forces, an undertaking which, although consistent with the requirement of Soviet declaratory and military tradition, was probably also advanced by the increase in US conventional capabilities achieved under the Kennedy Administration and the Administration's adoption of the 'flexible' response doctrine. The continuing effort to improve Soviet general purpose forces during the late 1960s and early 1970s may also have been affected by the enviable example of American global capabilities. However, the influence of various other factors having no direct relationship to the actions of the United States, were probably at least as great an influence upon the development of the USSR's general purpose forces as any American action. The consistently high rating of the European theatre in the hierarchy of Soviet military and political interests under the Brezhnev and Kosygin leadership argued for major conventional capabilities. The crisis in Czechoslovakia in 1968 provided a clear illustration of the value of mobile, combat-ready general purpose forces in representing Soviet interests in the eastern region of the continent, while the very serious state of Sino-Soviet relations also required expanded non-nuclear strength. Finally, the overall commitment to the
development of a much improved 'war-waging' capability demanded a further effort to correct the nuclear-conventional 'imbalance' of the Khrushchev period, equipping the Soviet Union to meet military challenges on any level of conflict. (59)

Sea Power

The development of Soviet naval forces in this period, as in the mid-1960s, was very significantly influenced by western naval strategy and deployments. The Soviet Navy's primary mission continued to be defence against America's very formidable seaborne nuclear 'threat': The Navy was also charged with the disruption of western maritime communications, the defence of Soviet maritime interests and assistance to ground forces operations. However, while there was a probable instance of direct emulation of western Naval developments in the case of the Y-class submarine and perhaps some degree of emulation in the deployment of helicopter carriers, the Soviet Navy generally persisted in meeting the western naval challenge in a distinctively Soviet fashion. Rather than initiate the 'command of the seas' strategy and force structure

of its major adversary, the USSR adhered to a 'sea denying' policy implemented by forces emphasising sub-surface units but including a growing surface element of appropriate design. (60)

The Soviet Commitment to SALT

On July 1, 1968 the United States and the Soviet Union signed the Treaty on the Non-Proliferation of Nuclear Weapons, an agreement which pledged the signatories to negotiations aimed at ending the arms race. President Johnson had already proposed discussions on the limitation of anti-ballistic missiles in early 1967, a proposal which apparently inspired little Soviet interest until June of 1968 when the USSR declared itself prepared to enter negotiations. After a further delay occasioned by Warsaw Pact action against Czechoslovakia in August of 1968 and the necessity for the USSR and the newly elected Nixon Administration to reconsider the question of arms talks, Soviet and American representatives finally met in Helsinki on November 17, 1969 to take the first preparatory steps for the Strategic Arms Limitation Talks. (61)

The motivation behind the Soviet decision to enter SALT in 1968, reconfirmed in 1969, may never be known with certainty but it is at least possible to identify a few likely motives. The enormous expenditures involved in the expansion of Soviet nuclear capabilities during the 1960s may have encouraged interest in limitations on future deployments. While the decision to join SALT clearly did not reflect an intention to halt the development of Soviet strategic forces, the prospect of an

unlimited increase in expenditures as the price for maintaining an acceptable posture probably helped to kindle Soviet interest in SALT. However, this interest was probably more effectively advanced by the obvious utility in strategic terms of entering into an arrangement which would limit the weapon developments and deployments of the United States. By 1969 the Soviet Union had achieved a position which Washington acknowledged as one of rough equality with the level of American capabilities, establishing the Soviet Union as a fully qualified superpower, a status which SALT itself underscored before the world. However, an entirely uninhibited arms contest with an opponent commanding economic and technological resources still far superior to those of the Soviet Union presented the USSR with the prospect of a highly uncertain future of American deployments which could seriously compromise the hard-won Soviet position of the late 1960s and early 1970s. Indeed, the announcement of Soviet willingness to enter SALT in 1969 was immediately preceded by Senate approval of one such 'compromising' American system, the Safeguard anti-missile defence.

Although the desire to avoid any deterioration in the

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(63) Young, op. cit., p.215; Erickson, op. cit., p.42.
Soviet-American relationship of alleged 'equality' argued for Soviet participation in arms negotiations, it is by no means clear that the preservation of equality or 'parity' between the superpowers represented the major objective of the USSR's SALT delegation. 'Parity', deeply embedded in American strategic thought remained a concept alien to Soviet strategic doctrine. The Soviet Union instead approached SALT against the background of a doctrine and a deterrence concept which rejected the American notion of 'mutual vulnerability'. The credibility of deterrence and the survival of the USSR in the event of the failure of deterrence required the maintenance of a demonstrated capability to wage war, a requirement which in turn obliged the Soviet Union to seek the maximum degree of strategic advantage obtainable. Mere equality clearly offered a highly unreliable basis for either deterrence or effective defence.

This significant divergence between the Soviet and American deterrence concepts was to have important consequences for the outcome of SALT I in 1972.\(^{(64)}\)

Summary View of the Soviet Deterrence Concept and the 'Action-Reaction Process

The modification in the Soviet attitude to missile defence during the late 1960s and early 1970s was greeted with some surprise in the west. However, the hope that the change in ABM policy signalled Soviet acceptance of the American doctrine of 'stable deterrence' through 'mutual vulnerability' was unfounded, as the Soviet concept of deterrence retained its 'war-waging' emphasis. Despite the apparent convergence on the ABM issue, the strategic doctrines of the superpowers remained in fundamentally asymmetrical positions. While the origins of the Soviet interpretation of deterrence were to be found within the body of traditional Soviet doctrine, the shift in the official position on missile defence can be linked to the prospect of a 'major' American investment in defensive systems which threatened to undermine the vigorous Soviet effort to correct the once stark imbalance between the offensive forces of the superpowers.
Expansion of Soviet Strategic Forces

The underlying commitment to an uninterrupted expansion of Soviet strategic forces in this period continued to find convincing justification in the very formidable level of US deployments and the rapid pace of American technological development. However, the build-up in Soviet forces was also pursued in conformity with the requirements of a strategic doctrine which emphasised the capability to wage war in defence of the USSR. This 'war-waging' objective not only affected the overall level of Soviet deployments, focusing the attention of planners on the desirability of achieving some measure of strategic advantage rather than simple 'parity', but also influenced individual development and deployment decisions to at least as great an extent as any actions of the United States. With the active defence of the USSR acknowledged as the first priority of the armed forces, Soviet policy-makers approved the deployment of a liberal mix of weapons systems designed to prepare a devastating assault against the entire target complex of the United States 'military and civilian'. Unimpressed by the American view that mutual vulnerability represented the only rational basis for the Soviet-American strategic relationship, the USSR continued to produce such systems as the SS-9, weapons appropriate to the development of a flexible 'war-waging' capability, but deeply alarming to American observers less than fully aware of the Soviet rejection of the Pentagon's strategic truths.
Chapter 3

The Strategic Arms Limitation Talks
SALT I and its Critics

After more than two decades of strategic competition distinguished by a highly imperfect performance of 'action-reaction' in November of 1969, the United States and the Soviet Union embarked upon the Strategic Arms Limitation Talks (SALT), a major effort to control the development of the arms contest and an unequalled opportunity for direct Soviet-American interaction. The agreements which emerged from the first series of talks (SALT I) were signed in Moscow on May 26, 1972 amidst widespread belief that their signature marked an important achievement in arms control and the beginning of a historic accommodation between the United States and the Soviet Union. However, the terms of SALT I and their implications for the future of the superpower relationship have come under intensifying criticism in the west, both from critics who charge that the agreements are incapable of slowing the pace of the 'arms race', as well as from those who regard SALT I as the blueprint for American strategic inferiority. In fact, each of these charges finds some substance in the documents initialled in Moscow.
The SALT I Agreements

The SALT I agreements include a treaty of unlimited duration restricting the Soviet Union and the United States to two antiballistic missile 'deployment areas', one centering around each signatory's national capitol and another shielding some part of its land-based missile forces. These 'deployment areas' are to be separated by at least 1,300 kilometres (810 miles) and are to include, within a radius not exceeding 150 kilometres (94 miles), no more than 100 static, land-based ABM launchers each able to fire only one anti-missile missile and a single warhead. Further restrictions are established with regard to radars but there is no prohibition on qualitative improvements in ABM missiles. (1)

President Nixon and Secretary Brezhnev also signed two documents affecting offensive weapons over a five-year period. One of these, an Interim Agreement on the Limitation of Strategic Offensive Arms, pledges the parties not to undertake the

(1) In 1974 the United States and the Soviet Union agreed to forego the deployment of ABMs outside the single deployment area in which each side had already completed deployment. In other words, the USSR will not construct a second installation to defend part of its ICBM forces, and the USA will not emplace ABMs around Washington. See 'Kissinger Assesses Impact of Summit', Aviation Week and Space Technology, July 22, 1974, pp.38-42.
construction of additional fixed land-based intercontinental ballistic missile launchers after July 1, 1972. The total number of sea-based ballistic missile launchers and modern ballistic missile submarines is fixed at that number of launchers and submarines operational and under construction on May 26, 1972. While the agreement bans any further deployments of modern 'heavy' ICBMs, the modernisation and replacement of strategic offensive ballistic missiles is permitted. The parties are also permitted to replace ICBM launchers deployed before 1964 and launchers aboard 'older' submarines, with an equal number of new SLBM launchers. Finally, a Protocol to the Interim Agreement specifically limits the United States to no more than 710 SLBM launchers and forty-four 'modern' ballistic missile submarines. The USSR is also to deploy no more than 950 SLBM launchers and sixty-two 'modern' ballistic missile submarines. Under these agreements each signatory is committed to the pursuit of 'an agreement on more complete measures limiting strategic offensive arms.' (2)

Ineffective as a Constraint upon Strategic Competition

Those observers who looked to SALT as the means of sharply constraining the Soviet-American strategic competition have much to complain of in the terms of SALT I. The agreements clearly do not require any reduction in strategic force levels. Although an attempt to achieve reductions at the very outset of the SALT process probably would have set too ambitious an objective for the talks, the Interim Agreement and Protocol in fact authorise an increase in Soviet forces by establishing the maximum totals of launchers at that number operational and under construction by July 1, 1972 in the case of ICBM launchers, and May 26, 1972 for SLBM launchers. This provision set the high mark of Soviet launchers at 2,424 as compared with the existing total of 2,090 when the accords were signed. More importantly the agreements make no effort to restrain qualitative improvements in strategic systems beyond a vague prohibition on additional deployments of 'heavy' ICBM launchers. In deferring the qualitative question, SALT I does not attempt to inhibit


the wide range of advances under development in both countries affecting almost every aspect of nuclear weapons technology. The MIRV programmes underway in the USA and the USSR provide one dramatic example of a highly significant technological advance to which SALT I poses no obstacle whatsoever. The extent of the effective arms limitation which SALT I might have been expected to achieve at the time of the Moscow signing ceremony was indicated by the expenditures of some $25 billion on Soviet and American strategic weapons in the final year of SALT I discussion, (5) as well as by Mr. Brezhnev's frank statement to President Nixon that the USSR intended to proceed with its weapons research and development programmes during the five year term of the Interim Agreement. (6) Subsequent events have proven Mr. Brezhnev entirely true to his word as the Soviet Union has continued the expansion of its strategic capabilities at a rate which has alarmed its SALT partner. (7) At the same time the United States has also continued the develop-


ment of several new systems including cruise missiles, a new generation of nuclear submarine and SLBM, and the B-1 bomber. (8)

Soviet Advantages Under SALT I

Critical blows have also fallen on SALT I from those who believe that the Moscow accords lay the foundations for the development of Soviet strategic superiority. (9) The marked quantitative imbalance established between Soviet and American missile forces by the terms of SALT I is usually offered as the major justification for the charge that the agreements threaten the United States with a rapid decline into strategic inferiority. In fixing the number of launchers permitted to each party at the total number of operational and under construction on July 1, 1972 in the case of ICBMs and May 26, 1972 for SLBMs, the Interim Agreement limited the USSR to 1,618 ICBM launchers and 740 SLBM launchers aboard 'modern' nuclear submarines, added to another sixty-six SLBMs already fitted aboard diesel submarines, as opposed to America's 1,054 land-based intercontinental launchers and 656 sea-based ballistic launchers.

(8) 'Few Programmes Seen Affected by SALT', Aviation Week and Space Technology, March 29, 1976, p.15.

These figures amount to a combined launcher ceiling of 2,424 for the Soviet Union as compared with 1,710 for the United States. (10) Further, the Protocol's assignment of a maximum force of 950 SLBM launchers to the USSR and 710 for the United States, along with the provision allowing land-based weapons deployed before 1964 to be exchanged for submarine launchers, invites the Soviet Union to secure a considerable margin of numerical superiority in modern submarine launched systems. Perhaps even more alarming than the disparity between the numbers of Soviet and American ICBMs the and SLBMs was/three-to-one superiority in deliverable megatonnage which was assured to the USSR by the imbalance in missile launchers fixed in SALT and the payload capabilities of Soviet missile systems. (11)

Under the terms of the Interim Agreement and the Protocol, the USSR was presented with two interesting alternatives for the disposition of its offensive strength. The Soviet Union could scrap its 210 pre-1964 SS-7 and SS-8 weapons along with its force of sixty-six SLBMs deployed aboard diesel powered submarines in exchange for 210 modern SLBMs, bringing its seaborne launchers to the maximum level of 950 and reducing its


(11) Erickson, 'Soviet Military Power', *op. cit.*, p.IX.
ICBM forces to 1,408 launchers (2,358 launcher total).

Alternatively, the USSR had the option of replacing only 144 of its 210 ageing ICBM's and its entire force of sixty-six SLBMs aboard diesel powered submarines with modern SLBMs, thereby reaching the 950 maximum for SLBMs, while retaining 1,474 ICBM launchers, including sixty-six of the SS-7 and SS-8 types which would be available for modernisation (2,324 launcher total). The Soviet advantage in launchers was of course accompanied by a numerical edge in nuclear submarines of sixty-two to forty-four. (12)

American options under the SALT provision allowing the replacement of land-based by sea-based systems were far more limited than those available to the USSR. In fact, the only attractive US option was to retire its fifty-four Titan II launchers, reducing the American ICBM total to 1,000, in exchange for fifty-four modern SLBMs which, when added to the existing total of 656, would achieve the maximum number allowed to the USA (710) while remaining within the overall limit for American launchers of 1,710. (13)


(13) Ibid.
Advocates of the SALT I arrangement have been quick to argue that analyses of the relative superpower postures based upon the total number of missile launchers and megatons allowed to each side under the agreements are far too simplistic to permit an accurate appraisal of the strategic implications of the Moscow accords. Any assessment of the SALT I 'balance' must also consider several other factors. First, the agreements on offensive launchers entirely ignore the massive American quantitative and qualitative advantage in strategic aircraft. In 1972 some 455 B-52s (active and active reserve) faced a force of 140 distinctly inferior Soviet long-range bombers. Further, the effectiveness of American strategic aviation was to be much improved beginning in 1972 by the equipment of US bombers with Short Range Attack Missiles (SRAM), providing some 7,500 air launched nuclear weapons. (14) Second, the defenders of SALT I have also noted that the apparent Soviet advantage in SLBMs and nuclear submarines is qualified by the distance of the USSR's submarine bases from their firing stations; and that the effectiveness of the Soviet nuclear submarine fleet generally is (or was) affected by the shorter range of the USSR's SLBMs. The great distance between Soviet home ports and the American coastlines

substantially reduces the number of missile firing submarines which the Soviet Union can expect to maintain in firing position at any time, perhaps allowing for only some 40% of the USSR's SLBM force to appear in the firing-line as opposed to 60% for the United States.\(^{(15)}\) With regard to the apportionment of SLBMs under SALT I, the Soviet delegation declared on its own behalf that it considered the western SLBM total to be a maximum of 800 launchers and fifty submarines when the ballistic missile submarines of America's NATO allies are added to US forces.\(^{(16)}\)

Third, it has also been observed that the Moscow agreements do not record the tremendous American advantage in deliverable warheads. Mr. Nixon approved SALT I in the expectation that the United States would have completed its MIRV deployment programme by the time of the Interim Agreement's expiration, equipping US missile forces to strike a theoretical maximum of 7700 arming points. With its multiple warhead technology still in a relatively early stage of development, the USSR would be able to assault only some 2,424 targets by 1977, one for each of its allowed total of launchers.\(^{(17)}\) Finally, it has also been


\(^{(16)}\) See 'Unilateral Statements', appended by each SALT delegation to the SALT I documents. Statement 'G' states the Soviet view on western total of SLBMs and nuclear submarines, in Kaplan, op. cit., p.243.

argued that the charge of gross disparity between the Soviet and American levels of deliverable megatonnage is only sustainable by ignoring the huge force of American intercontinental bombers. When the massive capability of the US strategic air force is added to the deliverable megatonnage calculations, the overall 'balance' shifts in favour of the United States. (18)

The SALT I 'Balance'

Each of the factors qualifying the clear Soviet quantitative advantage under the 1972 agreements is undeniably of significance in measuring the relative positions of the signatories under SALT I. It is equally true that only the most superficial Soviet assessment of the overall 'balance' likely to prevail from 1972 to 1977 could have concluded that the USSR was on the verge of achieving a commanding strategic advantage over the United States as the ink dried on the signatures of Leonid Brezhnev and Richard Nixon. Nevertheless, despite the qualifications, Soviet SALT negotiators can convincingly argue in the privacy of their own councils that in setting the stage for a long-term arms limitation arrangement with the United States in the SALT I form they have created a basis from which the

Soviet Union can reasonably expect to develop a clear margin of advantage over the United States provided that the precedents established in 1972 can be hardened into a treaty on offensive weapons in SALT II.

Any Soviet assessment of SALT I must at least regard the following features of the agreements with considerable satisfaction. First, with regard to delivery vehicles, the Soviet advantage in ballistic missile launchers (and it is launchers which are restricted, not missiles) represents a substantial quantitative edge which the United States is not only explicitly obliged to concede by the terms of the Interim Agreement and the Protocol but also an advantage against which the United States is specifically forbidden to take any effective defensive measures by the terms of the treaty on antiballistic missiles. By contrast, the United States is implicitly allowed an advantage in strategic aircraft by virtue of the fact that bombers are not mentioned in the SALT I accords. However, this 'concession' affects a delivery system which both sides long ago discounted as inferior to ballistic missiles, as well as a system against which defensive measures are not only permissible under SALT I but which have already been extensively prepared by the USSR. The marked Soviet superiority in SLBM launchers and missile firing submarines has been justified in terms of the distance separating Soviet submarine bases from their
firing positions, the existence of British and French submarines and the inferiority of Soviet SLBM technology. While NATO submarines will remain a legitimate object of Soviet concern (although the Soviet Union has reportedly dropped its SALT I view that NATO submarines must be counted in the American SLBM total), the technical inadequacies of the USSR's SLBM fleet have already been reduced and will continue to be improved, diminishing the problems of distance to firing position by increasing the range of Soviet SLBMs. Regardless of the fortunes of SLBM and nuclear submarine research in the USSR, it would surely be unwise to concede a major advantage to the Soviet Union in this field based upon an assumption of permanent Soviet technological inferiority.

Second, the launcher 'balance' set by SALT I and the capabilities of the Soviet missile forces guaranteed the Soviet Union a massive advantage in deliverable megatonnage calculated in terms of the payload capability of the weapon system which the Soviet Union has regarded as decisive since at least 1960. The megatonnage total can only be shifted in favour of the United States by once again calling upon strategic aircraft. However, when the relative vulnerability of strategic aircraft to defensive measures is considered, along with the mutually agreed prohibitions on missile defence and the heavy Soviet investment in air defence, it is obvious that no simple exchange between aircraft and missiles is possible if the ultimate objective of the bargain is the achievement of parity. The
diminishing returns which accrue from the enlargement of missile warheads, as well as the importance of accuracy have been noted by those wishing to discount the significance of megatonnage figures as an indication of the relative capabilities of each side. (19) Indeed, it is obviously true that megatonnage totals do not provide anything remotely approaching an adequate basis for assessing the relative capabilities of the superpowers under SALT I. It is, of course, possible to command a tremendous megatonnage advantage while occupying a distinctly inferior strategic position. However, the limitations of megatonnage statistics as a measure of capabilities do not alter the fact that an arms control agreement which firmly fixes one of the parties in a clearly inferior position with reference to megatonnage provides the other with a very substantial advantage, an advantage which the superior party may or may not manage to exploit through improved accuracy or by other means, but a major advantage nevertheless.

Finally, the SALT I arrangement allows the United States to retain an enormous advantage in the numbers of missile warhead by simply failing to take note of the American development of multiple warheads. However, this advantage is enjoyed by the United States only as a result of the advanced state of its warhead technology, and as such, represents a superior

American capability which the Soviet Union is clearly not obliged to preserve. In any event, the continuing development of Soviet multiple warhead research since 1972 confirms that USSR is determined to equal American warhead technology as rapidly as possible.\(^{(20)}\) With the temporary American lead in warhead numbers eventually eliminated by developments in the Soviet Union, the long term Soviet advantage in megatonnage, (a margin of superiority fixed in SALT I) offers the USSR the opportunity to achieve a total number of deliverable warheads far in excess of that of the United States.

**An Overall View**

The terms of SALT I taken as a whole do not establish the Soviet Union as the superior nuclear power, nor do they present the USSR with the opportunity to achieve commanding superiority in the five-year period covered by the Interim Agreement and the Protocol on offensive weapons. However, SALT I prepared the ground in a manner which, if maintained in a subsequent treaty, will provide the Soviet Union with the scope for developing a clear advantage over the United States during the 1980s, by guaranteeing the USSR broad quantitative margins of superiority counterbalanced by an American qualitative advantage.

\(^{(20)}\) Fred Emery, "Russia "Has Deployed Multi-Head Missiles"", *The Times*, January 15, 1975, p.5.
allowed to the United States only by dint of its unrelieved efforts to preserve a wide technological gap between itself and its adversary. The Soviet Union is in no way required to concede technological advantages of any kind and is in fact, obviously determined to draw even with the United States by almost every qualitative standard. Although analysts of the SALT I 'balance' who express some degree of alarm as to its implications, are reminded that mere numerical comparisons provide an inadequate basis for determining the relative positions of the superpowers under the Moscow accords, the fact that numbers admittedly do not tell all does not imply that they are not of very considerable significance. Nor do the acknowledged limitations of 'numbers' detract from the fact that a marked quantitative imbalance in launchers and/or megatonnage would be of great consequence under a future arms limitation treaty in which one party is granted a major quantitative advantage, while both are either allowed to make the most of their technological resources or in which both are subject to equivalent qualitative restraints. In such a relationship the qualitatively superior power is strongly urged to maintain a clear technological lead over its competitor in order to assure the survival of rough parity, while the party commanding a major quantitative edge need only achieve technological equality in order to acquire substantially superior capabilities.

The long term implications of SALT I were not entirely lost
upon the United States. However, the American assumption that the bargain between quantity and quality which underlay SALT I would prove temporary and the expectation that a subsequent treaty on offensive weapons would reflect Soviet acceptance of rough quantitative parity with the United States have not been borne out in the difficult SALT II negotiations. (21) While it is impossible to judge SALT II before a treaty is finally produced, the initial Soviet view in the talks appears to have regarded the relative force levels established in SALT I as the agreed basis for SALT II, with only a few issues, including American cruise missiles and carrier based aircraft, remaining for decision. Although the Soviet delegation has since retired from this opening position, the discussions between President Ford and Secretary Brezhnev at Vladivostok in 1974 clearly reveal a firm Soviet intention to preserve a significant quantitative advantage over the United States during the second stage of the SALT process, despite rapid progress toward closing the qualitative gap over such systems as SLBMs and MIRV. In other words, the Soviet view appears to be that the quantitative inequalities established in SALT I were not a temporary arrangement, balancing Soviet quantity

against American quality. Instead, Soviet quantitative superiority is regarded as a permanent feature of any future treaty.\(^{(22)}\)

The Vladivostok agreements appear to establish equality between the superpowers by restricting both parties to 2,400 strategic delivery vehicles - ICBMs, SLBMs and bombers - and by limiting each side to a total of 1,320 ICBMs and SLBMs equipped with MIRV. However, this semblance of equality does not eliminate the very substantial Soviet superiority in deliverable megatonnage.\(^{(23)}\) Under the Vladivostok arrangement the disparity in missile throw-weight between the Soviet Union and the United States is about a factor of two-to-three, a quantitative advantage which could eventually equip the USSR with two-to-three times as many warheads as the USA.\(^{(24)}\)


\(^{(23)}\) The terms of the Vladivostok Agreement discussed in Barnaby, \textit{op. cit.}; 'Setting a Boundary', \textit{Newsweek}, December 9, 1974, p.15; 'The "Breakthrough" on SALT', \textit{Time}, December 9, 1974, pp.22-23;

\(^{(24)}\) Extract from Henry S. Rowan's testimony before House of Representatives Committee on International Relations, 'Implications of SALT Agreement Detailed', \textit{Aviation Week and Space Technology}, September 15, 1975, p.54.
short, the Soviet negotiating posture in SALT II, as in SALT I, appears to reflect a firm determination to achieve a clear margin of superiority over the United States in terms of at least one of the most important measurements of strategic power.

SALT and Soviet-American Interaction

SALT has proven an absorbing exercise both for the parties involved and a legion of academic analysts. With the SALT I agreements still in effect and a SALT II treaty in the difficult process of negotiation, it is more than a little premature to attempt a 'final' assessment of the significance of SALT for the Soviet-American strategic competition. Nevertheless, it is at least reasonably clear from the terms of SALT I and the available evidence as to the likely form of SALT II that, even in a forum providing every opportunity for direct interaction and faithful emulation, each of the competitors has remained remarkably faithful to its own strategic principles.

The American SALT I posture, displaying a willingness to accept a very considerable quantitative inferiority in exchange for a qualitative advantage the transient nature of which could enable the Soviet Union to achieve an overall quantitative advantage, in part reflects, the long-established American view that such advantages are not of critical significance as long as
the United States retains a secure capability to inflict unacceptable damage upon the urban areas of the Soviet Union. If, as in the American case, little credence is attached to the idea of effective defence in a nuclear war and nuclear weapons are regarded only as the mainstay of deterrence, the primary objective of strategic planning is reduced to the maintenance of a demonstrated capability to destroy a large proportion of the USSR's population and industry. Quantitative disparities or margins of 'superiority' between the strategic forces of the superpowers are not of critical importance as long as they do not jeopardise the second-strike capability of the United States.\(^{(25)}\) The high degree of American scepticism about the concept of superiority was expressed by Dr. Henry Kissinger in a Moscow press conference when, with some exasperation, he asked: '... what in the name of God is strategic superiority?' 'What is the significance of it, politically, militarily, operationally, at these levels of numbers? What do you do with it?'\(^{(26)}\) On the same occasion Dr. Kissinger also said of superiority within the SALT context:

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\(^{(25)}\) 'Implications of SALT Agreement Detailed', \textit{op. cit.}, p.52.

\(^{(26)}\) 'Kissinger Assesses Impact of Summit', \textit{Aviation Week and Space Technology}, July 22, 1974, p.42.
The notion of nuclear sufficiency of what is necessary under conditions of no ABM defences requires careful correlation with the number of available warheads. For present purposes, I want to say that any idea that any country can easily achieve strategic superiority is almost devoid, under these conditions, of any operational significance and can only have a numerical significance. (27)

In sharp contrast with the American attitude to numerical advantages, the USSR's insistence upon a wide margin of quantitative superiority in both SALT I and SALT II reflects not only the traditional Russian reliance upon 'numbers' but also a conception of the role of nuclear weapons and the nature and requirements of deterrence which continues to differ substantially from that of its adversary. Although the Soviet Union probably entered SALT without any precisely drawn objective in terms of the parity-superiority issue, it nevertheless began the talks against the background of a strategic doctrine which did not dispose the USSR toward the acceptance of the American principle of 'mutual vulnerability' or a position of dead level equality with the United States.

Believing that nuclear war remains a possibility and that nuclear weapons retain at least some degree of military or 'war-waging' utility, Soviet strategic planning, as well as the USSR's approach to SALT, have been significantly influenced by a

commitment to prepare for both effective defence, defined in terms of an 'assured survival capability', and credible deterrence. Viewed from a still essentially 'war-waging' rather than a 'massive assured destruction' perspective, highly desirable strategic advantages are clearly conceivable, whether or not they might prove attainable at SALT, and 'numbers' or quantitative margins of advantage are of great significance. Indeed, such advantages promise not only to guarantee the credibility of Soviet deterrence, but could also mark the difference between the survival of the USSR as a functioning society and its complete destruction should deterrence fail. (28)

Whatever the SALT process may manage to achieve in the way of arms limitation - and to date the record is not impressive - SALT I has at least succeeded in demonstrating that despite a generation of 'action-reaction' and the yeoman 'educative' efforts of American strategic analysts, each competitor has retained a stubborn attachment to its own understanding of the political and military significance of nuclear weapons and the nature of deterrence. On the one hand the United States continues to hold to a doctrine of 'mutual vulnerability' and, judging from its behaviour at SALT I, is either unconcerned or

unaware that the Soviet Union does not share its convictions.

On the other hand, the USSR has been subjected to sophisticated American analyses repeatedly asserting the irrelevance of 'numbers', the meaninglessness of superiority and the futility of nuclear 'war-waging' without substantially modifying its long-established commitment to credible deterrence and effective defence supported from a position of maximum strategic advantage. Indeed, it might be argued that, despite the opportunity for sensitive interaction and emulation offered by SALT, throughout these negotiations each of the participants has demonstrated the same high degree of responsiveness to indigenous influences, preferences, priorities and constraints which has characterised the Soviet-American strategic competition for more than a generation. (29)

CONCLUSION
The history of the Soviet-American strategic competition neither supports any assertion of close strategic interaction between the superpowers nor confirms their involvement in a simple two-party 'arms race'. The historical record does reveal a competition initiated by each party's assessment of the other as a dangerous adversary, a perception which has not only maintained a relationship entirely compatible with the development of several generations of strategic weapons, but which has also facilitated a relatively small number of specific and direct reactions by each side to actions taken by the other. However, the body of strategic doctrine and the great bulk of weapons programmes undertaken by the superpowers have not flowed from a process of two party action and reaction. Doctrine, force structure and force levels in each country have instead emerged within two separate and distinct national environments, passing through a developmental process of enormous complexity in which external factors have accounted for one among many important formative influences. The complexity and dissimilarity of these national environments has not only resulted in only a few instances of classically direct action and reaction, but has also produced little strategic emulation or imitation.

Despite much discussion in the west of strategic 'convergence' and the 'educative' efforts of the United States, each competitor has continued to meet its security problem with its own distinctive solutions, maintaining the competitors in persistently asymmetrical postures.
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