



CANBERRA PAPERS  
on STRATEGY and DEFENCE

No. 12

PETER KING

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# The Strategy of Total Withholding

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This paper describes and criticises official strategic doctrines and what is known of the nuclear weapon safety procedures of the two superpowers. In it Dr King draws attention to many disturbing problems of safety which arise with current and future levels of deployment of nuclear weapons. He then develops the thesis that, in the event of a nuclear onslaught from an enemy power, the United States ought seriously to consider the total withholding of any nuclear response, from the points of view of her own interest and of the world at large.

This fundamental re-examination of accepted nuclear strategic doctrine is bound to stimulate controversy and discussion among politicians, the armed services, scholars of international relations, and the general reader anxious to survive into the next century.

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Publication date 28.1.72

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# The Strategy of Total Withholding

PETER KING

*A publication of  
The Strategic and Defence Studies Centre*

AUSTRALIAN NATIONAL UNIVERSITY PRESS

CANBERRA 1971

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Text set in Monotype Times New Roman  
and printed in Hong Kong by Dai Nippon Printing Co. (Int) Ltd.

*National Library of Australia Card no. and ISBN 0 7081 0353 7*

*Library of Congress Catalog Card no. 77-175294*

## THE STRATEGY OF TOTAL WITHHOLDING

PROLONGED CONCERN with the danger of nuclear weapons is likely to induce mental and possibly moral fatigue. Is it any use worrying about nuclear and other 'weapons of mass destruction'? Are there any 'solutions' to 'the problem'? Have all the good ideas about controlling the menace been formulated? This monograph argues that worrying about nuclear weapons should be and remain a high intellectual priority, that while there are no solutions to the nuclear problem short of men reverting to apehood or finally exterminating human life, there are important palliatives, including some which have not yet been properly thought out.

We may begin by rehearsing the main variables affecting the level of nuclear danger in the world. These are: (1) the number of nuclear weapons currently deployed or available (*stockpile* problem); (2) the number of nuclear powers in the world (*proliferation* problem); (3) the intensity of disputes and conflict between the nuclear powers and between them and their other opponents (*tension* problem); (4) destabilising developments in military technology (*innovation* problem); (5) the quality of the precautions taken in deploying weapons (*safety* problem); and (6) the military intentions of the nuclear powers—under what circumstances, in what numbers, and against what targets they propose to use nuclear weapons

(*doctrine* problem). In my opinion, these last two variables<sup>1</sup> have been inadequately treated by strategic analysis, and a case is made here for two related radical changes in policy with respect to them.

The first half of this monograph argues for a 'strategy of unconditional nuclear withholding' on the part of nuclear powers—that is, it recommends that nuclear powers should make (secret) preparations to prevent any nuclear retaliation *by their own forces* taking place, even if those forces or the nation's cities are massively attacked. The second half explores the nuclear weapons safety problem in general and specifically in relation to a withholding strategy. Allowing that important improvements have been made in safety arrangements, at least in the United States, a radically new arrangement is suggested whereby both in peace and war only the central leadership (whatever that might be following a nuclear attack) would have the physical ability to fire or permit the firing of nuclear weapons. Clearly the two proposals are interdependent: without 'centralised safety' it may not be possible for the national leadership to preserve firing discipline among the military in order to 'implement' a withholding strategy, while there is not much point in preserving centralised safety, and there may be military disadvantages in doing so during nuclear attack, unless one intends to 'totally withhold'.

I am particularly concerned here with United States nuclear weapons policy and doctrine for a number of reasons which had better be explained in advance. American nuclear policy and practice are better documented than any other; they are also more important than any other—not only because the United States has the largest weapon stockpiles and the largest number of significant 'nuclearised' alliance relationships of any country, but also because U.S. policymakers have shown the greatest propensity—at least in the past—to use nuclear weapons. Finally, because U.S. nuclear policy is so important and so public, and because of its pioneering quality in the last twenty-five years, it has exerted a great influence on the policy of other nuclear countries.

## STRATEGIC DOCTRINE

WE begin then with the development of American strategic doctrine as a major variable affecting the likelihood of nuclear war. The first year of great decisions was 1945. Nuclear bombing of Japan was treated simply

<sup>1</sup> The variables listed here of course interact with each other in important ways. Thus the development of the Polaris system technology depended on a doctrine which stressed the danger of surprise attack, and the number of nuclear powers in the world depends partly on the cheapness of uranium separation and nuclear reactor technology.



as a continued application with improved means of an established strategic principle of World War II, that an enemy's defeat could be accelerated by attacking his industry and civilian morale where they were most vulnerable—in large cities. Strategic city-bombing had failed to make much difference in the war against Germany, but at least it had seemed to work against Japan. In any case after 1945 American nuclear weapons were at first deployed mainly for the city-bombing mission. At this time the Strategic Air Command seemed necessary to deter a Soviet ground attack in Europe owing to the imbalance of conventional forces. From 1949 it is to be presumed that the emphasis in targeting shifted towards air bases, for the Soviet Union began to acquire a strategic nuclear arm. When nuclear bombs became available in much larger numbers in the middle 1950s, and the vastly more powerful thermonuclear weapons were perfected, then fission weapons began to be considered for 'tactical' or more traditional military purposes. At the same time, under the influence of American frustration over the Korean war, nuclear weapons began to be viewed once again as a substitute for conventional weapons, although in a new way. In the 'massive retaliation' doctrine of January 1954, Secretary of State Dulles threatened possible strategic nuclear strikes, not confined to any local theatre, against conventional aggression in Asia and the Middle East as well as Europe.<sup>2</sup> Here was the high water mark of American doctrinal propensity to use nuclear weapons, but the mark was to be significantly lowered several times during the next seven years.

Under pressure from civilian experts in universities and semi-independent organisations like the RAND Corporation, which increasingly dominated strategic discussions, and despite Dulles's own flirtation with tactical nuclear warfare, the doctrine of limited conventional war began to gain ground. Later under the same intellectual influences a doctrine of limited (but strategic) nuclear war also found sympathy in high places. As formulated by Secretary of Defense McNamara, this doctrine called for a war fought if possible exclusively between contending nuclear forces—a 'counterforce' war, as others have called it, with each side aiming at (civilian) 'damage limitation' for itself. Each side would strive to reduce the opponent's strike force and thus his ability to destroy cities. Such a war might of course be won straight out by the side which knocked out all of the other's weapons—a point McNamara seems to have been perfectly aware of when he pointed out the advantages to the Soviet Union of not striking at American cities in a war of forces.<sup>3</sup>

<sup>2</sup>See Urs Schwarz, *American Strategy: a New Perspective*, Doubleday, 1966, chapter 5.

<sup>3</sup>See W. Kaufmann, *The McNamara Strategy*, Harper, 1964, chapter 4.

That is the theory of counterforce war, but the doctrine does not exclude strikes against cities in the case where the enemy refuses to observe the restraints required of him. How much city-destruction is thought necessary? In McNamara's words during his last year in office:

it seems reasonable to assume that in the case of the Soviet Union the destruction of say one fifth to one fourth of its population and one half to two thirds of its industrial capacity would mean its elimination as a major power for many years.

McNamara also called for a capability to destroy fifty Chinese cities, which he pointed out would not kill a large proportion of the Chinese people, but would wipe out China's industrial infrastructure.<sup>4</sup> However, an attack of this latter kind would still smack of genocide, and the whole retaliation strategy bears closer examination. Is either the threat to kill or the actual killing of Russians and Chinese necessary?

It is usual to suggest that opposed nuclear leaders must continue to threaten mutual extermination of populations in the general interest of deterrence. It is not often realised that this threat—spoken or implied—sits uneasily with the broad ideological commitments of the superpowers. To the Soviet leadership, at least in one mode of its propaganda, the civil population of the United States is an exploited, often passive, but fundamentally progressive mass which a militaristic elite manipulates for its own ends. The mass will one day liberate itself from bourgeois oppression. How then can a Soviet leader justify the incineration, poisoning, and pauperisation of these potentially socialist masses? Or how can American leaders, who often, although less frequently these days, express a comparable view of the Soviet people as victims of an authoritarian and power-hungry elite, justify consigning them to the nuclear bonfire?

The moral problem raised by nuclear threats may of course be posed more conventionally. Under what circumstances would the national interest justify the threat of killing scores of millions of people? Let us concede that mere threats may not do much more than pollute the diplomatic atmosphere, and proceed to the more interesting problem: would a nuclear power ever be justified in executing a threat—implicit or explicit—to kill vast 'enemy' populations?

This question has two quite distinct moral aspects. There is justification from the viewpoint of the world community itself, or justification from the viewpoint of the national interest. For the sake of the hard-bitten, let us confine our attention chiefly to the national interest case. If it

<sup>4</sup>Military Posture Statement to Senate Armed Services Committee, 25 January 1967, in *Documents on Disarmament, 1967*, U.S. Arms Control and Disarmament Agency, 1968, p. 6.

fails, common sense suggests that any justification on wider grounds would fail.

The national interest case rests on the argument that, unless one is 'really' prepared to use the Bomb, deterrence may not work. (Some strategists seem to be affected by the notion that *not* retaliating after being struck may somehow retroactively *cause* the attack which has already taken place!) The problems of this conventional view are many. Of course deterrence may not work despite one's most careful preparations, and once deterrence has failed there is a new situation, to invoke a useful cliché. It may *then* be in one's interest not to retaliate, whereas before it was in one's interest to appear certain to retaliate.

What is the national interest in the situation when enemy rockets have fallen or are on the way? One's chief interest then must surely be to prevent further attacks either on military targets or, especially, on cities. (We can neglect 'nibbling' or limited strategic attacks; most American strategists have come to accept that these should not be the occasion for immediate holocaust, but rather for inquiry and diplomacy.)<sup>5</sup> One can try to prevent further attacks by launching a counterforce strike to suppress the opponent's remaining weapons; but such a strike may have the effect of triggering a further strike by the enemy, who may feel that his surviving force is in jeopardy and had better be used before it becomes unusable. (We have made no assumptions yet about the motive of the attack.) Especially if the opponent's first strike was confined to military targets, a counter-strike—whether directed against forces or cities—which triggered a strike against cities would be disastrous for the retaliating power.

On the other hand, if the first strike involved a saturation attack on cities, it would be difficult to make a self-interested case for retaliation apart from the pursuit of retribution or vengeance by surviving leaders. The national interest as we know it—that is, the interest of a numerous, industrially skilled population—would have ceased to exist. Ghosts can scarcely be said to have interests, and interests can scarcely be said to inhere unchanged in a territory which has ceased to support a population.

It can be argued that in the interests of the children of the irradiated and miserable survivors, the power which has committed aggression should be eliminated, together with its nuclear armoury, as far as possible. But it can also be argued (again ignoring the motive for attack) that one of the main hopes for the relief and succour of a devastated population would be precisely the devastator. After all it was the United States that saved Japan and Germany from starvation in 1945–6. (However, I would not argue that the Soviet Union should be relied on in this matter.)

<sup>5</sup>See K. Knorr and T. Read, *Limited Strategic War*, Princeton University Press, 1962.

Much the same arguments apply in the case where only the more (or less) important cities have been stricken. Retaliation may bring about the extinction of the remainder. From the viewpoint of national self-interest alone it is extremely difficult to make a clear-cut case for nuclear retaliation, at any rate if the opponent disposes of a substantial and substantially invulnerable nuclear armoury—as do the United States, the United Kingdom, and the USSR, and soon perhaps China and France.

The argument so far has generated a notable paradox. If nuclear retaliation seems an enterprise of the most dubious value, then nuclear aggression appears an enterprise likely to confer the most striking benefits. Above all it holds out the prospect of instant elimination of powerful opponents—whether by inducing surrender or actually inflicting complete disarmament or demolition. Yet this line of argument is the opposite of the conventional expert wisdom in nuclear matters, and also runs counter to common sense; both suggest that disaster is likely to be heaped on the nuclear aggressor. And in fact a grand nuclear aggressor is rather unlikely to 'get away with it', whatever the merits of the arguments above, and I am certainly not advocating nuclear aggression. Of course in the chaos and passion following the eruption of nuclear bombs, the most lucid and thoughtful leaders may lose their heads. Moreover it would require political courage and ingenuity of a high order to live with a decision *not* to retaliate upon an enemy who had attempted to disarm the nation or had devastated its people and wealth. It is worth pausing to suggest how the political and diplomatic problems might be handled if any leadership chose the course suggested here, which we may christen the Strategy of Unconditional or Total Withholding.

Much depends on the motive (if any) of the original attack. Whether the attack arises from calculation, miscalculation, misinformation, indiscipline, bloody-mindedness or madness will greatly affect the chances of any particular counter-strategy succeeding. Total withholding as a strategy has three major possible variants. It can be coupled with some form of surrender, with self-disarmament, or with resistance.

'Surrender' in this context, however, is thoroughly ambiguous. It might, for instance, include unilateral nuclear disarmament; or, if the original attack had been something of a mistake or temporary aberration, it might not (in fact, 'surrender' might not be required). But a superpower might have to contemplate negotiating away its power-political place in the sun if it chose the course suggested. On the other hand it could hardly keep that place if it suffered a major nuclear attack.

'Disarmament' in the context of total withholding might be quick and voluntary ('Look, I am disarming—send inspectors to check—I will do anything to ensure that you cease your attacks'). Or it might be slower

and imposed by the unrepentant aggressor<sup>6</sup> ('Disarm or I will blow up New York/Moscow/Peking tomorrow morning').

Finally 'resistance'. What resistance is possible when one has eschewed immediate retaliation for grievous attacks? One answer is that the mere possession of intact nuclear weapons, even when a power has passed through military humiliation, confers a strength which must continue to give pause to any opponent. Perhaps if the aggressor attacks or threatens once more the victim will finally react violently regardless of consequences—or perhaps there will be a change of leadership. Such must be the fears of a persistent nuclear aggressor. And thus there arise possibilities of bluffing the aggressor into restoring peace even when one has no intention of using one's nuclear weapons.

Still it must be admitted that the military and diplomatic consequences of the withholding strategy could be absolutely as well as relatively disastrous. And possibilities for domestic political disaster also face any civilian leadership which chooses the strategy. Violent popular reactions, military coups and nuclear firing indiscipline—all would clearly become more likely in the wake of a decision for non-retaliation. Hence the possible appeal for a sincerely humanitarian leadership of the very radical course suggested above—nuclear self-disarmament, which could be a mere matter of tearing up codes or destroying arming mechanisms.

Less radical but perhaps even more demanding would be the option open to a head of government of withholding weapons and fighting to keep his authority in the political constituencies which manage to survive nuclear attack—whether electoral, parliamentary, bureaucratic or military. Of course his authority would be easier to maintain if the rationale of nuclear withholding had been publicly explained in advance by someone—not necessarily the national leaders! That is one reply when orthodox strategists object that advocacy of the total withholding idea will encourage the enemy to attack if it leads him to think that nuclear semi-pacifism is being bandied about in high places. Another reply is that the withholding idea would be of little use if it died with the head of government in a surprise nuclear strike: a procedure is needed whereby the successor command will be at least familiar with the idea when confronted by it in such an eventuality. The procedure for communicating the idea would

<sup>6</sup>Some American writers have suggested that the first use of thermonuclear weapons in the world might induce crash multilateral nuclear disarmament in the world through general panic. Of course it might induce crash nuclear proliferation but the danger that the mere possession of nuclear weapons will attract an attack which would otherwise not occur has been persistently neglected by strategists. Who is more likely to die in World War III – a Roman or a Londoner? World War III might even bring about some unilateral nuclear disarmament (if that is not entailed by taking part in it).

have to be leak-proof 'ahead of time', of course, which could be difficult to ensure, and a high-level debate on withholding might encourage an enemy marginally; but these risks would have to be taken to give the withholding idea a reasonable chance to work.

The argument so far has dealt generally with some problems of the withholding strategy, although most examples have been drawn from American experience. It is worth at least raising the question how differently the problem would present itself to Soviet and Chinese leaders. (I think it is clear that for the time being total withholding would pose few problems to Britain and France in view of their strategic positions.) Arthur Burns has suggested that a nuclear attack on the Soviet Union would be much more likely to cause the collapse of the regime than an attack on the United States, and in fact he favours nuclear retaliation against the Soviet armed forces generally as a strategy morally superior to retaliation on Soviet cities—and one which also has the merit of kicking away a main prop of an oppressive regime.<sup>7</sup> However, even if Burns is right, a Soviet chain of command, if not a regime, might well survive a 'counterforces' attack with sufficient vitality to control surviving nuclear weapons. What special interest or aversion might such a command have towards the withholding strategy?

It should perhaps be said first that the Russian military spokesmen have shown more interest in a pre-emptive nuclear strategy ('I will not strike first unless you do') than have those of America. That is, there is no firm evidence that they plan to withhold nuclear weapons even long enough to ensure that the USSR has actually been attacked. On the other hand, the same Russian military (with some exceptions) have been consistently more interested than the American in fighting a conventional war despite, or as a decisive sequel to, a nuclear war. Therefore they might wish to leave certain prizes such as Western Europe intact for conventional conquest; or they might see no important military purpose served by destroying the industry and population of the United States. (On the first of these points, however, it must be noted that conventional operations would be difficult to sustain from a nuclearly devastated rear.)<sup>8</sup>

I have mentioned already the ideological inhibitions which ought in theory to prevent Soviet leaders executing large numbers of proletarians in the United States. The mainly Communist proletarians of Italy and France surely deserve special consideration also—I am not aware, though,

<sup>7</sup>A. L. Burns, 'Ethics and Deterrence: a nuclear balance without hostage cities?' *Adelphi Papers*, No. 69, The Institute for Strategic Studies, London, July 1970, p. 17.

<sup>8</sup>For discussion of these issues see V.D. Sokolovskii (ed.), *Soviet Military Strategy*, translated with an analytical introduction by H.S. Dinerstein, L. Goure, and T.W. Wolfe, Prentice Hall for the RAND Corporation, 1963.

that they have protested against Soviet strategic plans. There is also a humanitarian strain in Soviet Communism despite its Stalinist deformations which might conceivably serve to inhibit some leaders, including military ones, in a nuclear crisis. (Some of Soviet Russia's most exalted resisters and protesters are retired military men—ex-generals Grigorenko and Gorbatov come to mind.) In any case because of the very slight influence of the Soviet people on the regime it seems unlikely that Soviet leaders would have much political difficulty in defending a decision for non-retaliation to the surviving populace. Even in the United States revenge might be the least of the survivors' concerns; no one has proved that even healthy nuclear survivors would be hungering for retaliation.

As for China, she will for the time being have an even greater incentive not to exacerbate any nuclear crisis she is in than the two superpowers. Even if many Chinese cities have been attacked and very few Chinese weapons remain, one can easily imagine the men in Peking reasoning that to retaliate against American or Soviet cities would invite crushing further blows from either or both of those powers. Peking is after all the only nuclear power which has formally committed itself not to strike first—a good measure, perhaps, of its nuclear inhibitions.

## WEAPON SAFETY

It was said at the beginning that the propensity of states to use nuclear weapons depends on technical factors as well as doctrine—especially on the mutual vulnerability of forces and the reliability of safety procedures and devices. The much-discussed vulnerability problem is now well and widely understood, and seems to have been more or less 'solved' as between the two superpowers by the development of compact, mobile and hardened rockets, and protected, mobile and redundant command and communication systems.<sup>9</sup>

But the adequacy of safety measures has received far less attention. Of course, as pointed out earlier, if one has decided never to use one's nuclear weapons but to keep them exclusively for deterrent effect, one will be very interested in strict safety measures to avoid accidental and unauthorised firings. But it is a general interest of nuclear states to avoid unprovoked, unauthorised nuclear attacks on their opponents. It is a remarkable fact that on the American side, at least, about which a little is known, the *ability* as opposed to the *authority* to exterminate millions has been placed in a large number of humble hands for a large part of the last twenty-five years without stirring up significant public protest. About the

<sup>9</sup>See, especially, B. Brodie, *Strategy in the Missile Age*, Princeton University Press, 1959, T.C. Schelling, *The Strategy of Conflict*, Harvard University Press, 1960.

other four nuclear powers' safety arrangements almost nothing is known, since these arrangements are treated as military secrets.

Successive American Defense Secretaries and Presidents, especially since 1960, have been at pains to suggest that nuclear indiscipline has been made more and more difficult and unlikely. In a speech of 1968 Secretary McNamara said that on taking office in 1961 he 'undertook an extensive program to improve and make more secure the command and control of our strategic offensive forces.'

Among the measures taken was the establishment of a number of alternate national command centers, including some which would be maintained continuously in the air so that the direction of all our forces would not have to depend upon the survival of a single center. Steps were also taken to enhance the survivability, reliability and effectiveness of the various command and communications systems, including, for example, provisions for the airborne control of bomber, MINUTEMAN and POLARIS launchings. These were all forged into a new integrated National Military Command System. To guard against accidental or unauthorized firings, new procedures, equipment and command arrangements were introduced to ensure that all nuclear weapons could be released only on the positive command of the national authorities.<sup>10</sup>

During the McNamara period the most important single account of the 'new procedures, equipment and command arrangements' came from John T. McNaughton, McNamara's deputy assistant for arms control, in a speech of 1962.<sup>11</sup> McNaughton claimed that the safety situation had been improved in the first two Kennedy years;<sup>12</sup> that there existed a 'wide array of administrative and physical restraints on a nuclear firing by accident or violation of authority'. He cited the 'two-man rule which requires at least two responsible individuals to be present at every level of operation or handling of nuclear weapons', and the psychological screening required of the same individuals at regular intervals.<sup>13</sup> He

<sup>10</sup> Military Posture Statement by Secretary of Defense McNamara to the House Committee on Armed Services, 30 April 1968, *Documents on Disarmament 1968*, United States Arms Control and Disarmament Agency, Publication 52, Washington, September 1969.

<sup>11</sup> Address before the International Arms Control Symposium, University of Michigan, Ann Arbor, 19 December 1962. (This speech is extensively quoted in Kaufmann, *op. cit.*, pp. 138-47.)

<sup>12</sup> It is fairly clear that until the mid-fifties, when the deterrent consisted from day to day chiefly of bombers parked on runways, safety problems were not nearly as serious as they became later when the deployment of missiles compressed warning times drastically, a development which led to the introduction of airborne alerts. Moreover second-generation solid-fuel missiles, such as Polaris and Minuteman, could be almost instantly launched. This was the situation which faced McNamara on taking office.

<sup>13</sup> On the origins of screening and the 'two-man rule' see P.F. Eggertsen, 'The Dilemma of Power: Nuclear Weapons and Human Reliability', *Psychiatry*, August 1964.



described 'the so-called fail-safe which in essence precludes SAC planes from proceeding beyond a predetermined point without an explicit "go" order', and an 'arming switch which . . . can be activated only by remote control<sup>14</sup> or by the insertion of a "key" held in careful custody'.

In the 1964 presidential election campaign Johnson resisted suggestions by Goldwater that military commanders should be given more initiative in deciding for nuclear use. In a campaign speech he described U.S. control arrangements as follows:

The release of nuclear weapons would come by Presidential decision alone. Complex codes and electronic devices prevent any unauthorized action. Every further step along the way from decision to destruction is governed by the two-man rule. Two or more men must act independently and must decide the order has been given . . . An elaborate system of checks and counter checks, procedural and mechanical, guard against any unauthorized nuclear bursts. In addition since 1961 we have placed permissive action links on several of our weapons. These are electromechanical locks which must be opened by secret combination before action at all is possible and we are extending this system. . .<sup>15</sup> We have taken every step man can devise to insure that neither a madman nor a malfunction could ever trigger a nuclear war.<sup>16</sup>

Presidential candidate Nixon went even further than the Democratic Administration in his campaign promise of October 1968 to 'work for an administrative, technical or political agreement to minimize the risk of a nuclear accident, unauthorized use of nuclear weapons, precipitate response to an apparent crisis, or strategic miscalculation of an opponent's intentions',<sup>17</sup> although apparently nothing has come of this promise, saving the Strategic Arms Limitation Talks [SALT] which were mooted earlier than Nixon's election.

To verify and add detail to the rather rosy picture suggested by these statements, there are some journalists' reports and a very few academic studies to consult.<sup>18</sup> Some details of the firing procedures for the major strategic weapon systems have come to hand, but there are still several

<sup>14</sup>This type of switch is known as a Permissive Action Link [PAL].

<sup>15</sup>It should be noticed that Johnson's definition of a PAL differs from McNaughton's in the speech cited above. Where McNaughton spoke of activation by remote control, Johnson speaks of a secret combination only. Secret combinations of course can be stolen.

<sup>16</sup>'The Direction and Control of Nuclear Weapons'. Speech by President Johnson in Seattle, Washington, 16 September 1964, *Documents on Disarmament 1964*, p. 429.

<sup>17</sup>Radio address by Mr Nixon, 'Toward Peace Through Arms Control', 26 October 1968, *Documents on Disarmament 1968*, p. 695.

<sup>18</sup>See especially J. Larus, *Nuclear Weapons Safety and the Common Defense*, Ohio State University Press, 1967.

important uncertainties. One is whether nuclear indiscipline at levels of command below the President would be adequately checked under present arrangements. Could any of the Secretary of Defense, the Joint Chiefs of Staff, the chief of Strategic Air Command, or the chiefs of unified commands such as NATO or CINCPAC [Commander in Chief, Pacific (Hawaii)] succeed in starting a war without the President? Could the President start a war alone? Or if, as seems quite likely, the President were eliminated in a surprise enemy strike, would discipline be maintained? It is impossible to answer these questions in the present state of public knowledge. However, it is possible to discuss the safety problem usefully, nevertheless. The obvious starting place is those weapon systems whose safety features have been publicised.

To begin with the Minuteman missile, current arrangements require that two 'Launch Control Centers', each containing a crew of two and having operational responsibility for ten widely spaced (and buried) missiles, must 'agree' to cause a single missile to be launched. Of course, in principle, launching is only performed after a coded Presidential or equivalent command has been received and 'authenticated'. One reassuring element of the Minuteman system is that any one of the five control centres (each responsible for ten missiles) in a missile 'flight' can 'veto' any launching by any other and presumably would in the absence of any orders for war.<sup>19</sup>

With Polaris missiles the situation seems to be less satisfactory. According to one journalist's report, the commander and his executive officer, acting with the collaboration of a Weapon Control Officer, can launch a rocket and there is no provision for a possible 'veto' on firing from another submarine—obviously because of the difficulties of communications among the widely dispersed, submerged units of the Polaris fleet.<sup>20</sup> It is also important from the viewpoint of safety that the Polaris warhead, being less powerful and accurate than Minuteman, is thought to be targeted almost exclusively on cities. With the advent of Poseidon, the 'MIRVed' successor to Polaris, one unauthorised launching could mean the destruction of several cities.<sup>21</sup>

Safety procedures in the strategic Air Command's B-52 bombers have been more widely publicised than those of other weapon systems, and the fail-safe procedure is well known. Under it bombers are launched towards enemy targets but are under orders not to cross a cartographic

<sup>19</sup>W. Griffith, 'Visit to an Atomic Base', *New York Times Weekly Review*, 4 May 1969.

<sup>20</sup>See David Hamilton, 'Riding an Atomic Whale', *SperryScope*, Vol. 17, No. 1, 1965.

<sup>21</sup>A MIRV [Multiple Independently Targetable Re-entry Vehicle] warhead is three (or more) warheads in one—each capable of being guided to a separate target. The first Poseidons entered service late in 1970. Minuteman is also being MIRVed.

line unless given a 'positive' order to attack. Inside the B-52, as in Polaris, three crew members must collaborate to arm and fire nuclear weapons, and it is not physically possible for one man acting alone actually to arm the weapons. But it *is* possible in the Polaris, Minuteman, and B-52 systems for a conspiratorial circle at the operational level to launch nuclear weapons; or at least the available evidence points to the conclusion that the higher commands have no *physical* ability to prevent unauthorised firings. Permissive Action Links seem to have been installed only in the so-called tactical nuclear weapons systems of the NATO command—in the shorter range missiles and fighter bombers actually deployed in the NATO area.<sup>22</sup>

It is on the face of things intolerable that many hundreds of small groups of men in the United States Navy and Air Force as well as in the Soviet armed forces should have the physical ability to kill millions and destroy the priceless treasures of great cities. Yet the world has lived quite cheerfully with this situation for years. It is impossible to attach any concrete probabilities to the dangers of current safety procedures, but in the long run (say 100 years) they must be very great. If procedures are not changed it seems likely that in one missile or bomber crew at some time there will be a sufficient combination of madness, ingenuity, collusion, and deception to cause a firing authorised by no higher command. The question needs to be asked why the physical authorisation of firing is not concentrated at higher levels in the command structure—the higher the better. Ideally from the safety point of view one wants to minimise the number of centres physically able to launch or authorise the launching of strikes, and maximise the number of veto-wielders in that centre. Of course in a conventionally structured deterrent force there is provision for subordinate and alternate command centres to come into play as the top echelons are eliminated. But there is no military need for these subordinate centres to have the physical ability to launch or authorise launchings in peacetime. How difficult it would be for 'deterrent authority' somehow to pass automatically on to alternate or subordinate authorities if the high command were suddenly wiped out, and therefore rendered incapable of ensuring an orderly succession, I simply do not know. Technological ingenuity is presumably capable of solving this particular problem, which has never been publicly discussed, to my knowledge. In any case the ideal, and, I suspect, perfectly practical safety arrangement is one where one nuclear headquarters alone can physically fire or release weapons for firing: it would be able to transmit not simply signals to fire but coded

<sup>22</sup>Recently I asked a former high official of the Pentagon Weapon Systems Evaluation Division whether Permissive Action Links had been fitted to strategic weapons. His answer was simply: 'No'.

signals to permit or actually accomplish the arming of warheads.

It is normal in tough-minded military circles to object to the above argument that, if the physical authorisation of firing is concentrated so far up the command structure, the nuclear deterrent then becomes as vulnerable to enemy attrition as the command itself, instead of being merely as vulnerable as the individual bombers and missile sites. This objection has two serious weaknesses. First, the key principle of present arrangements is that there should be no unauthorised firings at all, even in war; that the supreme command, such as it is, must be always and everywhere in charge.<sup>23</sup> Hence the attention in the United States recently to establishing invulnerable and mobile and 'redundant' command centres—underground, on air alert, and at sea—and redundant communication networks also. Not only is there elaborate provision for replacement of the President as Supreme Commander; there will also be available a whole series of alternative locations for this commander and a variety of channels for his communicating with the retaliatory forces. These preparations are intended to avert the consequences of jamming as well as the destruction of transmission facilities. Thus the likelihood of the entire command and control network breaking down is not very high.

The second weakness of the tough-minded view on the safety problem is that it exaggerates the brittleness of deterrent relationships. Certainly an opponent is more likely to attack if he need only eliminate control centres instead of individual weapons, but he must eventually reckon on the reconstruction of control centres, which is far easier than the reconstruction of destroyed weapons.

Much of the analysis of deterrence relationships in the last twenty years, especially in the United States, has rested on the often fruitful assumption that 'the enemy'—meaning Russia—has been simply waiting for a favourable 'technical' opportunity to attack. The resulting analysis has tended to recommend the sacrifice of every other value to the perfecting of deterrence. Thus American writers have recommended very large weapon stockpiles, 'dirty' bombs,<sup>24</sup> aerial alerts, etc.—and above all doctrines and control procedures calculated to produce a very high likelihood that retaliation will in fact take place.<sup>25</sup>

<sup>23</sup>For a contrary view, that as the 'trigger' (the commander authorised to initiate retaliation and his signals net) is degraded by attack, so the 'safety catch' (arrangements to preserve firing discipline) should be progressively eased off or eliminated, see Thornton Read, *Command and Control*, Policy Memorandum No. 24, Center of International Studies, Princeton University, 15 June 1961.

<sup>24</sup>Fusion or hydrogen weapons whose explosive power is boosted by a cheap container or shell of natural uranium (U<sup>238</sup>) which undergoes fission after the fusion reaction and generates large quantities of 'dirty' fallout.

<sup>25</sup>See especially H. Kahn, *On Thermonuclear War*, Princeton University Press, 1960.

From the viewpoint of national as well as human interests it can fairly be argued that all of these recommendations are misguided. The SALT discussions between the United States and the USSR perhaps suggest that at last the necessity of keeping thousands of 'city-busting' weapons in a state of advanced readiness is being questioned. Already the 'hot line' between Washington, Moscow, and London is a significant acknowledgment that there is more to crisis management than being able to give better than you get in a fight. In the long run, and especially if the spread and stock-piling of nuclear weapons can be controlled and the use of nuclear weapons avoided for another generation, it is to be hoped that the doctrinal and safety innovations recommended here will be widely adopted. There are, however, several objections to the nuclear semi-pacifism of this monograph that ought to be considered in conclusion.

## OBJECTIONS

THE argument so far has neglected the non-strategic use of nuclear weapons, because it is the long-range thermonuclear weapons which pose the greatest dangers to civilian populations, and it is extremely difficult to imagine rules for their restricted use. There is a better prospect of preventing the in-theatre tactical use of nuclear weapons from getting out of hand—although even without escalation the consequences could be disastrous for populations in the combat zone. I have pointed out above that tactical nuclear weapons in the NATO command are under especially rigorous 'centralised' safety arrangements already, and so enforcing restraint on nuclear combat crews should be comparatively easy. What is the case for nuclear withholding in the face of tactical nuclear attack?

One obvious point is that failure to retaliate against an invading force which has initiated nuclear strikes would be tantamount to surrender, at least in the theatre of operations, because conventionally armed troops would either mutiny, flee, or surrender if asked to resist a force employing nuclears with impunity. A short-run bluffing strategy of very restrictive nuclear retaliation against trivial targets is a possibility to consider here,<sup>26</sup> but the bluff might be very quickly called, or lead to disastrous escalation. A full-blooded series of counter-infantry, counter-panzer, counter-rocket, counter-airfield and interdiction strikes would almost certainly bring about such a *dénouement*.

The conclusion seems inescapable that there is an even starker choice to be made in tactical situations between nuclear escalation and surrender. Fortunately in the Central European theatre, which is still by far the area

<sup>26</sup> Arthur Burns's strategy of counter-military nuclear strikes would perhaps be more reasonably employed in a situation of tactical rather than strategic threat.

of the world most likely to suffer local use of nuclear weapons, it has come to seem possible now that nuclear weapons would be withheld by the West even in defeat. And according to persistent rumours in Western strategy circles, the Russians have never stationed nuclear warheads west of the Soviet borders, which suggests that there would be no strong propensity on the Soviet side to initiate tactical use. For what the opinion is worth, I would oppose nuclear retaliation by NATO, even on localised military targets, if the Soviets *did* initiate nuclear strikes in the central area, but not so vehemently as I would oppose strategic retaliation of any kind.

There is one other case to consider, when the counter-use of nuclear weapons would not entail a risk of initiating uncontrolled escalation—and that is the firing of nuclear-tipped ABMs (Anti-Ballistic Missiles) at incoming ICBMs. Strategic reasoning in general should endeavour to formulate conclusions as simple and exception-free as possible, but nuclear strategic doctrine should be especially straightforward, for it is doctrine which may have to be applied in an appallingly compressed time-span under conditions of chaos. Nevertheless, the ABM, and nuclear anti-aircraft missiles also, should clearly be treated differently to weapons that can attack uncommitted forces and city populations. As a myriad commentators have pointed out, the nuclear—non-nuclear distinction is invaluable in controlling arms races as well as war, but I do not wish to argue that all nuclear weapons—from sub-kiloton atomic artillery to MIRVed Polaris—and all conceivable uses of them—from knocking out another nuclear weapon in space to destroying Moscow, Leningrad and Kiev—are equally repugnant.

However, in my opinion the ABM is the only clear case where there should be an exception to the withholding rules being advocated here. If a power has spent its billions developing ABMs, there can be no objection to using them for limiting damage to cities. On the other hand, the nuclear torpedo, a weapon whose prime function is to attack missile-firing submarines, and which might be thought another exception, clearly does have escalatory potential. A Polaris fleet might be triggered by torpedo attack.

There are two other important objections to the withholding idea that I now wish to discuss. The first contends that people generally, and national leaders in particular, are either so irrational or so conventional in their psychological makeup that it is entirely fruitless to recommend such a queer course of action as nuclear withholding, whatever its merits. The second objection is that nuclear war has already become extremely unlikely (may indeed have 'abolished itself'), and there is no point in further outlay of mental effort on minutiae such as accidents, unauthorised firings, limitation of 'intra-war damage', etc.

The first objection is perhaps adequately answered by the reflection that possibly irrational and certainly quite conventional political leaders in the United States were persuaded by strategists in the early 1960s under the patronage of Secretary of Defense McNamara to adopt the rather odd doctrine that the United States should attempt to confine nuclear hostilities to attacks upon forces. The second objection, which to some extent contradicts the first (if leaders are bound to react irrationally in a crisis, it can hardly be certain that nuclear war has abolished itself), may be answered as follows. Even if the probability of a nuclear strike or nuclear accident is tiny (say one per cent per annum) it would nevertheless be extremely important to reduce it or control the consequences of it.<sup>27</sup> Probably every important city in Russia, China, the United States, and Western Europe is on a nuclear target list at this moment. A single accident with a MIRVed warhead could cause perhaps 20 million deaths. To reduce the probability of such an accident even fractionally is therefore important.

Those who stress the unlikelihood of nuclear hostilities also overlook how extremely *easy* it is to initiate them from a military, political, and even psychological point of view. With the military technology of 1939, it turned out that one needed time to mobilise, to arouse the patriotism of the mass, to rearm fully, and to strike repeatedly at the enemy's air forces before his cities could be made really vulnerable to strategic bombing. With the technology of 1971, those same cities may be annihilated with impunity in a matter of minutes on the decision of a few leaders, and there is no necessity to arouse and involve the popular masses over a long period, or conduct a general mobilisation, or defeat enemy forces in detail in advance. There is also no need to *persist* in the decision to make war—which makes the decision for war morally and psychologically easier, in a sense. The optimists who urge that war has 'abolished itself' since the arrival of nuclear technology deserve derision.

Nuclear attack will be particularly easy if one is attacking a nuclearly unarmed opponent, or if one thinks one can get away with it, or if one does not fear retaliation. And it should be borne in mind that it is precisely the leaders who are planning a nuclear attack who will have invested most heavily in their own safety. Individuals can enjoy mobile or protected places of refuge—whole populations cannot. Deterrence theories assume an identity of interests and even of situations between leaders and led which simply does not exist. It is worth pointing out here that because

<sup>27</sup>There is no objective way to arrive at estimates of probability in this field. All one can do is note the number of nuclear powers, the numbers of weapons deployed, etc., and then reflect that in any run of 100 years the probability could be as much as 100 times the probability for one year, and will probably be more if new nuclear powers have emerged.

leaders may be able to face nuclear threats without danger to themselves, the philosophy of nuclear targeting needs rethinking.

It is often assumed that the capital city should be first item on the target list, not only because it will (hopefully) contain the enemy's leadership as well as his communications centre, but perhaps also because it is a valuable industrial centre. Now while threatening the capital may be rational, American writers have pointed out that in war one *may* wish to preserve the enemy leadership to negotiate with—or, we may add, to persuade it to impose restraint in the nuclear command structure, especially if the command structure cannot be completely knocked out by striking at the capital.

There is another important argument for excluding the capital city from operative target lists. If national leaders are on the one hand imperfectly deterred by threats to destroy all cities, they may on the other hand be perfectly deterred by the threat to destroy, say, *one* city, and that need not be the capital.

Ex-Secretary of Defense McNamara has been responsible for the most moderate (and precise) statement of the requirements of deterrence ever heard from an official spokesman. Let us recall that in 1967, asking himself how much damage the United States needed to be 'able' to inflict on opponents, McNamara gave himself this answer:

it seems reasonable to assume that in the case of the Soviet Union the destruction of say one fifth to one fourth of its population and one half to two thirds of its industrial capacity would mean its elimination as a major power for many years.<sup>28</sup>

This is interesting not only because it rejects the total destruction of Soviet society and is open to the rejoinder, 'If a fifth why not a tenth?', but also because, like other similar statements by McNamara in his last years of office, it does not say the United States *would* inflict this destruction if attacked. It is almost as though the idea of total withholding had developed half-consciously in the mind of the most thoughtful of Defense Secretaries.<sup>29</sup>

<sup>28</sup> Military Posture Statement to Senate Armed Services Committee, p. 6.

<sup>29</sup> McNamara has at least once shown extraordinary reluctance to say directly that he would order nuclear retaliation against the cities of the Soviet Union. In a hearing before the Senate Armed Services Committee in 1965 he made a formal submission along the lines of the one just quoted and later entered into this exchange with one of the Senators:

Secretary McNamara: . . . it is the opinion of all of us who have studied this that they [the Soviet leaders] would be most likely to attack cities as well as military targets, and do so simultaneously.

Senator Thurmond:           And our policy would be?



## CONCLUSION

ONE implication of this monograph is that for the foreseeable future of the planet, while national rivalries last, and while military science continues to throw up cheaper and easier ways of killing large numbers of people, the refinement and 'moralisation' of strategic thought ought to remain a high intellectual priority—one that should be reflected much more than at present in university curricula, research funding, the press, etc.<sup>30</sup>

The leaders of the nuclear powers have become accustomed to the idea that a nuclear first strike would be irrational. If they could be persuaded that a second strike would be equally, perhaps more, irrational, the world would be a safer place. At the least, the idea of total nuclear withholding can save half the lives at stake in a nuclear confrontation. A national leader cannot guarantee with any strategy to save the lives of his own people; he can with certainty preserve the lives of an opponent population, at least while he is in effective control of his own military.

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Secretary McNamara: The same.  
 Senator Thurmond: Would be the same?  
 Secretary McNamara: Under those circumstances.  
 Senator Thurmond: To strike cities?  
 Secretary McNamara: Under those circumstances our policy would be the same.  
 Senator Thurmond: As well as military targets?  
 Secretary McNamara: Yes, sir.

*Military Procurement Authorizations*, Hearings before the Senate Committee on Armed Services, 89th Congress, First Session, February 1965, p. 316. One of my critics has objected that McNamara's responses clearly do show an intention to attack Soviet cities. I would like to hear a tape recording of the episode, but perhaps another kind of evidence is also relevant. I have discovered in talking to former Pentagon officials that a strange atmosphere prevailed in McNamara's relations with the military concerning nuclear targeting. Here is an excerpt from my American diary of 1970, summarising an interview with one ex-official: 'X. said that McNamara showed he didn't care what the generals got up to in Omaha [SAC headquarters] on the strategic target planning group just so long as they stayed under control in war. X. said the generals were interested in target planning mainly because it helped them press for more weapons. He also said the military ideally would like one vast target system laid down by the military; they don't care for offering civilians a "menu" [of targets]. He said Minuteman for some years was set to go *only* 50 weapons at a time' – until someone (civilian) had this changed. (As 'X' pointed out, to knock down one target in these circumstances, SAC would have had to disarm 49 missiles and then order 50 to be fired!)

In the opinion of 'X' McNamara would 'probably' never have ordered retaliation against Soviet cities.

<sup>30</sup>It is worth noting that strategic thought in the United States has stagnated in the last seven years or so. 'Deterrence' theory now seems to inhibit creative strategic thinking.

At best, extreme restraint by one party to a nuclear conflict may avert significant casualties altogether. And the 'centralised' safety arrangements recommended here could greatly reduce the chances of catastrophic accident. Nevertheless it must be faced that the long-run outlook for the survival of civilisation is rather gloomy. There are over a hundred nations and a thousand technologies conspiring to make the habitation of the globe insecure. It will require very strong intellectual and moral inhibitions on the development and use of advanced military technologies to ease significantly the dangers we face.

Peter King is a lecturer in the Department of Government, University of Sydney. A graduate of the University of Melbourne and the Australian National University, he is a specialist in international relations, particularly strategic and arms control issues. Dr King has travelled widely in America, Europe, and South-East Asia during the course of his studies. He is co-author (with A. Clunies Ross) of *Australia and Nuclear Weapons* (Sydney, 1966).

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