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AUSTRALIA'S FOREIGN POLICY SINCE THE SECOND WORLD WAR

Major Arthur W. John,
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THE changes in Australia's foreign policy which have followed the Second World War seem rather as the natural outcome of this upheaval than as the result of the planning and direction of statesmen. Actually what has taken place can be explained in an appreciation of a statement by a prominent Australian political scientist that, "The central problem of Australia's Foreign Policy is how to reconcile our geography with our history. Historically we belong to Europe; geographically we are an island lying off the coast of South-East Asia."¹ In the past twenty years we have come a long way towards reconciling our geography with our history, and the inevitability of much that has happened is becoming increasingly apparent.

It is possible to trace certain fundamental changes which had to take place in order to shape the course

of events. These were:—First, the achievement of complete independence; second, the acceptance of responsibility for our own destiny and our own security; third, new concepts as to our relations with our Pacific neighbours; and, fourth, the development of a sound and consistent voice in international affairs.

As to the first, the unstinted support afforded Great Britain by the self-governing Dominions in the First World War hastened the acceptance of the principle of sovereign equality. The Balfour Declaration and the Statute of Westminster gave a form of words to changes in the association of components of the British Empire, which had already developed. We moved a step nearer to freedom from traditional habits of thought. The proclamation of the concept of independence gave the facts of geography ascendancy over the facts of history; this was as true in the case of Canada as in the case of Australia. But the inheritance of

1. W. Macmahon Ball in "Taking Stock"; ed. W. V. Aughterson, p. 35.

total independence and full nationhood had to be proved by events. Many within the newly designated Commonwealth of Nations failed to appreciate the significance of the changes, and many outside the Commonwealth of Nations were inclined to speculate, not without malice, on the prospects of the Dominions "throwing off the yoke."

The second of these fundamental changes—responsibility for our own destiny and our own security—provided much anxiety during the turbulent thirties. We continued to live in the past, with touching faith in the Royal Navy's ability to command all seas in all circumstances. As close to the period of confutation as April 1937, Mr. R. G. Casey declared that—"Our policy generally, and in the simplest possible terms, is based on the belief that the British fleet, or some appreciable portion of it, will be able to move freely eastwards in case we in Australia get into trouble in our part of the world."² Caught in the maelstrom of the Second World War some five years later, under the threat of invasion from Japan, in a New Year message of 1942 the Australian Prime Minister, the Rt Hon John Curtin, declared—"Without any inhibitions of any kind I make it clear that Australia looks to America free of any pangs as to our traditional kinship with the United Kingdom."³ This excursion into realism, even in those dark days, came as a shock to many, and Mr. Curtin found it necessary to explain that he had made his appeal

to the United States—"not because he believed that Britain was unwilling to help Australia, but because of Britain's war preoccupation in other parts of the world and because of the very geography of the situation."⁴ The Second World War left us no longer in any doubt as to the implications of full independent nationhood.

Appreciation of the implications of our geographical position, thrust on us by the Second World War, stressed the importance of the third point as to our relations with our Pacific neighbours. Their insecurity must, in the course of events, result in our own insecurity. We realised, perhaps for the first time, that we cannot isolate ourselves from the problems of our neighbours. There is increasing evidence that our whole attitude, at least outwardly, has changed in this respect.

As to the fourth and final point, we have developed the machinery for direct intercourse with other nations, whereby we may command attention for the Australian viewpoint. Whereas in pre-Second World War years Australia had direct representation only in London, we now have direct representation in all the leading world capitals (except, of course, in Moscow because of the Petrov contretemps). Then the External Affairs Department at Canberra consisted of twenty-eight officers, of whom three were overseas; now the Department employs 423 officers, of whom 134 are stationed abroad.⁵ Effective use is being made of radio broadcasts

2. *Australia's Foreign Policy*; ed. W. G. K. Duncan; quoted p. 98 from Hon. R. G. Casey's Chatham House Address of April, 1937.

3. *Australia in the Modern World* (AAEC publication); quoted p. 31.

4. *Ibid*; p. 31.

5. *Current Affairs Bulletin* (University of Sydney), Vol. 14, No. 13, of 11 Oct 54; page 196.

to foreign countries of Australian news and views.

These fundamental changes, then, arose through the process of reconciling our history with our geography, but what do we recognize as "our geography"? To begin with—that our region of the world is contiguous with South-East Asia, and that the whole Asian continent lies between us and Europe. As to territorial commitments, we are chiefly concerned with our island continent of some three million square miles. Secondly, we are concerned with the Territories of Papua and New Guinea, with their combined total area of over 180 thousand square miles. Thirdly, there is the area of Antarctica (two segments) totalling over two million square miles, to which Australia lays claim. If we accept the truth of the dictum of the late Herr Hitler that "No nation holds a foot of territory but by the sword," we cannot but feel uneasy at the extent of our commitments.

Having appreciated the extent of these commitments, we may examine our general attitudes concerning them to the outside world, which in sum constitute Australia's Foreign Policy. For this purpose, we may ignore Antarctica altogether, but keep the strategic importance of New Guinea in mind. The official expression of our general attitudes has certain basic objectives. These were declared by the Prime Minister, the Rt Hon R. G. Menzies, in April 1955, to be: "First, we must constantly seek for peace, provided that peace can be had with justice; second, if we are to become involved in war, we must see to it that in such a war we have powerful and willing friends; third,

we must not only defend our rights but also the rights of others; fourth, we must seek to raise living standards not only for ourselves but for all those other nations who are struggling towards a life that we have been privileged to enjoy for a long time; fifth, we must live and let live, that is, we are not to interfere with the internal affairs of other people so long as they pursue the same principle."⁶ In other words, we must avoid war, but war being a possibility we should recognize that we cannot defend our commitments of ourselves, but must cultivate allies who have similar ideals and an interest in our preservation, and at the same time endeavour to lessen the insecurity of our neighbours, who might otherwise be disposed to demand, or endeavour to take by force, those things we have in abundance and which they lack.

In dealing with the courses to be pursued in furtherance of these basic objectives, Mr. Menzies stated the following principles:—

- (i) Support of the United Nations, its structure and its procedures.
- (ii) Support and close co-operation with the British Commonwealth . . . which offers no challenge to the United Nations, since it has for years acted through that body and in conformity with the spirit of its Charter.
- (iii) To work for the closest collaboration between the British Commonwealth and the United States of America. . . .

6. Current Notes on International Affairs, Vol. 26, No. 4 of April 1955; page 282; from a Statement on Foreign Affairs in the House of Representatives.

- (iv) "Good Neighbour" policy towards the Asian countries in this section of the world.
- (v) To encourage the development of the world's peaceful trade, including our own with other countries.
- (vi) To justify the co-operation of other nations by ourselves accepting obligations and doing what is necessary at home to make those obligations performable.⁷

The first principle represents the ideal of "One World," towards which Australia has afforded full co-operation within the framework of the United Nations Organization. It has become increasingly evident that in face of the sovereign rights of its component members the United Nations is without power to achieve the objects of its Charter. The first fine, careless rapture which followed the San Francisco conference of 1945 has been dispelled by the brutal realities of power politics. Whilst accepting the ultimate necessity of a world organization, the nations seek security through regional pacts, and Australia is no exception.

As to the second principle, there is no co-ordinated Commonwealth line of action in world affairs, and this is as much due to the geographical location of the various components as to any other reason. Yet the Commonwealth bonds are very real. Left loose and elastic, they may be equal to any strain; made fast and taut, some of the strands might break at the first additional strain.

As to the third principle—just how close is the closest possible collaboration between the British Commonwealth and the United States? Here again the facts of geography compete with the facts of history. This has been clearly demonstrated over policies towards Communist China. Australian policy has tended to follow American rather than British policy simply because of the geographical relationship of Australia and the United States with China. In the matter of survival, for the United Kingdom, Europe is of paramount importance; for Australia, it is Asia; but for the United States, with her coastlines on both the Atlantic and Pacific Oceans, Europe and Asia compete closely for attention. Pacific allies being less powerful than European allies, Asia demands the closer attention much of the time.

Good neighbourliness towards Asian countries has been pursued since the Second World War more realistically than ever before. Australia may justly be proud of playing a major part in the foundation of the Colombo Plan and of making a reasonable contribution to its continuing success. However, we cannot afford to be too complacent about measures which admittedly touch only the fringes of the problem of improving living standards in Asia. In assessing the value of our contribution, it is a sobering thought that the USSR has recently offered to provide Burma with a fully equipped technical college.

We may regard the recently concluded Trade Pact with Japan (Tokyo, 7 July 1957) as an expression of the fifth principle, concerning the encouragement of world trade, though much internal bicker-

7. Ibid; p. 282.

ing is certain before our economy becomes settled to the unwelcomed impact of increased Japanese imports. The Tokyo Pact is also, in a sense, the acceptance of an obligation, and this brings us to the sixth principle mentioned by Mr. Menzies.

A major part of our obligations consists in our own and our regional security. In pursuit of this principle, we had already before the end of the Second World War (in 1944) entered the Anzac Pact with New Zealand. Made independently of Great Britain, this pact indicated a new spirit of independence. Quite consistently with this, Australia insisted on the closing of the great American naval base at Manus, in the Admiralty Islands, immediately after the cessation of hostilities, but many had second thoughts about this particular issue.

United States post-war policy towards Japan was not at all to Australia's liking. With the unlooked-for triumphs of the Communist armies in China, American policy was to keep Japan up rather than beat her down; to foster a potential ally rather than a possible defaulter to the Communist camp. Australia found it impossible to accept the American view, and sought guarantees against the possibility of Japanese resurgence. By the end of 1949 the Communist movement prevailed in China, and the outbreak of war across the 38th parallel in Korea six months later gave urgency to the matter of signing a peace treaty with Japan. It was then that the United States agreed to a pact with Australia and New Zealand against the possibility of attack, and this was signed at the same time as the peace treaty with Japan (October 1951)—a peace

treaty which placed no industrial and few military limitations on Japan and demanded no reparations.

The exclusion of Great Britain from the ANZUS Pact in accordance with the wishes of the United States provides another example of the difficulties in securing satisfactorily close collaboration between the British Commonwealth and the United States, but it was not long before the ANZUS partners were evincing a strong desire for British participation in a wider regional pact. Whilst an armistice in Korea resulted in prolonged negotiations for a settlement, the Communist-backed Viet Minh movement gained ascendancy over the French in Indo-China. However, in a perilous situation, scarcely improved by the ill-considered threats of the United States Secretary for State, Britain showed notable reluctance to enter a pact. It was only when the Geneva Conference had brought all parties together to arrange a general settlement that the way seemed clear for a regional security pact concerning the South-East Asian area.

In September 1954, Australia entered the South-East Asia Collective Defence Organization with the United Kingdom, France, the United States, the Philippines, Pakistan, Thailand and New Zealand. Within the general area, and notable for their non-adherence to the SEATO Pact, are India, Ceylon, Burma and Indonesia. However, these nations joined with twenty other nations in the Afro-Asian Conference at Bandung in April 1955, an event which seems to have sprung directly from the circumstances of the signing of the Manila Pact setting up SEATO.

The attendance of the leaders of the Chinese People's Republic afforded opportunities for plain speaking on security problems. Of the SEATO powers, Pakistan and Thailand participated; other nations, including Australia, had ambassadorial representation at plenary sessions. The transference of the NATO concept to another region, where general conditions are basically different, is not altogether realistic. Australia has tended to urge for "putting teeth into the organization," but the creation of "permanent" forces under the pact has been postponed.

Thus it is that Australia's contribution of armed forces to the area has been under the little-publicized ANZAM Pact (Australia, New Zealand and Malaya). The circumstances were explained by the Prime Minister in a press statement of 1st April 1955 in these terms: "... if the battle against Communism is to be an effective one, it must be won as far north of Australia as possible; Siam feels this, Malaya feels it, all countries involved in the Manila Treaty feel it. The freedom involved is the future democratic freedom of these northern neighbours of ours which we so much desire and is also our own."⁸

The contribution of a battalion of the Royal Australian Regiment and supporting troops to the Commonwealth Far East Strategic Reserve in Malaya paved the way for the withdrawal of the Australian Force from Korea, a costly and increasingly unsatisfactory commitment. Although the subject of some politi-

cal controversy at home, the Australian force is expected to remain in Malaya after the Malayan Government takes over from the British authorities under the new Constitution at the end of August 1957. Just what future course the new Government will decide on remains to be seen. Will Malaya join SEATO, or tend to adopt the same attitude as India and Ceylon? The most important aspect for Australia is the prospect of an increasing military commitment beyond her own shores with far-reaching international political implications.

Moving nearer home, there is the vexed problem of Indonesia's claim to sovereignty over Dutch New Guinea. Australia's attitude was reiterated by the Minister for External Affairs, the Rt. Hon. R. G. Casey, in a statement in the House of Representatives on 16th October 1956 to the effect that Australia continued to support the existence and maintenance of Dutch sovereignty, whilst remaining desirous of having the best possible relations with Indonesia and deploring the bitterness engendered by the persistence of Indonesia over its claim and its action in bringing the matter before the General Assembly of the United Nations.⁹

Twenty years ago the general lines of Australia's foreign policy were stated to be:—

- (1) The strengthening of the League of Nations, or some other international body, with the object of maintaining international law and order founded on a conception of justice and fair dealing, and involving, if

8. "Malaya Bound," AAEC publication, p. ix quoted.

9. Current Notes on International Affairs; Vol. 27, No. 10, '56; p. 647.

necessary, such readjustments as may be necessary to give effect to these principles.

- (2) A policy in the Pacific which will contribute to the larger and more important objectives of world order.
- (3) A trade policy based on the principles of economic appeasement, and mutual commerce.
- (4) An attitude towards the colonial problem which is consistent with the former principles of policy.¹⁰

The "general lines" have certainly become more complex in recent years, but whilst current pacts and pronouncements may indicate surface changes working towards desirable ends, we should recognize that the fundamentals remain unchanged. In conclusion, let us reflect on the importance of our own Australian understanding of "what is necessary at home to make the obligations we propose to accept performable (in order) to justify the co-operation of other nations" (Mr. Menzies' sixth principle). This depends to a large extent upon the further education of Australians as to just what goes on in the world. We need fewer after-dinner speeches, accompanied by mutual congratulations, and more looking at facts, accompanied by self-criticism. Our Australian way of life is based on two fundamentals—(i) protective tariffs and a general fiscal policy to enable Australia to become self-sufficient, and (ii) an im-

migration policy primarily designed to keep Asians out. Neither of these is going to win us friends in Asia. Moreover, we must not expect Americans to view them with complete detachment. The irony of the participation of American negro divisions in the process of ensuring the continuation of the White Australia Policy during the Second World War is lost on most Australians.

Our utmost efforts to establish secondary industry will not enable us to produce weapons equal to those which can be brought against us in modern warfare. Our maximum possible absorption of British and European migrants will not in the foreseeable future give us the forces to defend our territories by our own unaided efforts. Though we cannot change the fundamentals upon which our whole way of life depends, we should make adjustments in our own long-term interests. We cannot afford to ignore the possibility that in a third world war not only the United Kingdom but also the United States might be committed elsewhere, and that allies might have to be found in Asia. Which of the Asian nations could be considered for this role? Our current efforts to retain six million potential allies in the Malayan Peninsula, with 600 million ideologically hostile Chinese at the back of them and 60 million uncommitted Indonesians in between, should be regarded as short-term policy with limited long-term application. The ultimate test of our foreign policy might well be its success in establishing and maintaining allies in Asia.

10. Australia's Foreign Policy; ed. by W. G. K. Duncan (1938); p. 201, Angus & Robertson.

Nuclear Plenty and Limited War

James E. King, Jr.

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I

IN the first decade of the nuclear age the predominance of the United States in nuclear weapons steadily declined. History will note the paradox that, when the military advantage that nuclear weapons gave the United States was unchallenged, our considered policy was to restore the conventional strength we had lost in a hasty post-war demobilization and an ill-considered reduction of our standing forces, in order that we might not become wholly dependent upon the new weapons for our defence. But during the later years, when our nuclear advantage was clearly fading, the defence policy of the New Look reversed the emphasis and, without abandoning conventional weapons and forces, placed ever-increasing dependence on nuclear weapons.

The tenor of the new policy was made evident by the pronouncement, on January 12, 1954, of the "doctrine of massive retaliation" to "contain the mighty land power of the Communist World." This doctrine became manifestly unsatisfactory as the comprehensive strategic basis of our national defence policy as soon as the Russians were able to retaliate massively in their turn. Hence, although "massive" retaliation is still the threat that is supposed to deter an aggressor from all-out attack upon the United States, we now have among our strategies the "graduated deterrence" of "measured" retaliation—the threat that is supposed to deter

1. Speech by Secretary of State John Foster Dulles before the Council on Foreign Relations, New York, January 12, 1954.

an aggressor from actions hostile to our interests that are not "worth" total nuclear war. The full range of nuclear threats in support of our foreign policies may be termed "nuclear deterrence."²

Meantime, the President of the United States and the Premier of the USSR have both said that total nuclear war would end civilization as we know it—a view confirmed by the scientists who unlocked the secret of the atomic nucleus. The results of the Geneva Conference of 1955, called the "Geneva spirit," have been described as official, though tacit, recognition that war on the traditional total pattern must be excluded from among the instruments of national power. War must be banished from the human community, or it must become something quite different from what it has been in the past.

The necessity is underlined, and the difficulties are multiplied, by the continuing struggle between two great social revolutions in which each side holds that the other is bent upon its destruction. In this conflict the threat of war is explicit. For us the "Geneva spirit" is not enough. We must avoid total war, but without yielding to the pressures of the newer and more aggressive revolution to the East.

Nor is this the only source of conflict in the world. After the tragic events of October and November, 1956, it is hardly necessary to discourage hopes that war can, in fact, be banished from the earth,

or even that war between the Great Powers can permanently be avoided. The only attainable safeguard seems to be the limitation of war to levels of destruction compatible with civilization.

The popular long-range solution of the problem is to make war (at least big wars) impossible by means of controlled disarmament. But experience tells us that an arms race is more the symptom than the cause of international tensions. The symptom itself is harmful and calls for treatment when treatment is possible, but no one expects the treatment of symptoms to cure the indicated malady. If controlled disarmament becomes possible, it will be indicative of a basic change in the struggle, including greatly lessened danger of war. Even so, the world will not be guaranteed against the appearance of new causes of tension, of new aggressive forces in the society of nations.

The distinguishing feature of the concept of nuclear deterrence is the belief that by exploiting the power given us by nuclear weapons, by committing ourselves in advance to their employment in any open conflict with Communist imperialism, we can both reduce the chance of conflict and ensure that if it comes it will be a "limited" action, in which we can defend our national interests without committing suicide in the debris of our civilization. Combined with the feeling that this is the only way, in any case, that we can guarantee our security without jeopardizing our economic stability, the belief accounts for the increasing emphasis upon nuclear defence so evident during the last four years. This article will examine this belief and the attendant economic rationale.

2. Cf. John Foster Dulles, "Policy for Security and Peace," *Foreign Affairs*, April, 1954. Also Henry A. Kissinger, "Force and Diplomacy in the Nuclear Age," *Foreign Affairs*, April, 1956.

It will inquire into the prospects of warfare in the nuclear age, and, with emphasis upon the requirements of our defence, compare various suggestions for its limitation. The thesis that will be developed is that the best way to limit war is to eliminate the employment of nuclear weapons, and to keep even conventional war limited, and that a defence policy aimed at making this kind of limitation possible is in the best interest of the United States. The relevant facts are all available to the public. The conclusion follows from the way they are put together.

II

Arguments for nuclear deterrence based upon the assumption that we enjoy a decisive nuclear superiority obscure the essential issue. If we are decisively superior, we clearly can deter aggression in nearly all cases, and, if aggression occurs as a result of the aggressor's miscalculation, we can set acceptable limits to the resulting hostilities. But if our superiority is recognized by a potential aggressor, real threats are unlikely to develop except by his misadventure or our lack of firmness in dealing with him. It is notable how much of recent discussion of United States military and foreign policy has been devoted to our alleged lack of determination to use the advantages we are assumed to have in nuclear power, and how little to the question whether we really have such advantages, and what we should do about it if we do not have them, or if, having them temporarily, we are about to lose them.

Sir Winston Churchill, in his address to the House of Commons of March 1, 1955, in which he announced the formulation of a British defence policy for the nuclear age, called the consequences of growing nuclear stockpiles "saturation." He described it as that point at which "although one Power is stronger than the other—perhaps much stronger—both are capable of inflicting crippling of quasi-mortal injury on the other with what they have got." The common American term for Churchill's saturation is "nuclear plenty."

The stage of nuclear plenty has already been reached—or soon will be reached with the growth of the Russian long-range bomber fleet—in the sphere in which an intercontinental nuclear war would be fought. This is the stage at which each side has the weapons and the delivery means to destroy the other, given the existing state of defences against such an attack.

There appears to be nothing that we can do to avert the loss of our decisive advantage and the advent of nuclear plenty at the strategic level. Building more bombers is not the answer; it matters not how many times over we can destroy the Russians if they can destroy us just once. Nor are technological developments in prospect that give assurance of restoring our advantage. Intercontinental ballistic missiles may reduce the number of weapons lost in delivery. This will merely reduce the stockpile levels required for plenty. Even if we are first to achieve the I.C.B.M., it will not alter the situation so long as the Russians can still retaliate successfully with annihilating attack by manned bombers. Improv-

ing our defences against air attack will raise the cost of attack and the levels of stockpiles and air power at which the stage of nuclear plenty obtains; but no one has been able to show, and few believe, that defences can be so perfected as to prevent the delivery of the quite small numbers of big bombs required to produce widespread destruction and general paralysis. Defence against the I.C.B.M. has been called possible, but again a virtually perfect defence seems unlikely. All this is not to say, of course, that we should fold our hands. Both the ability to attack and the ability to defend are essential elements in maintaining the "balance of terror." We cannot permit the balance of advantage to slip to the other side; maintaining the strategic stalemate is vital.

A like situation is approaching in every sphere in which nuclear weapons might be employed. A far greater number of "small" bombs will be required to establish nuclear plenty for "tactical" war, but there must be some upper limit to what is needed, and there is no reason to believe that the ceiling exceeds the capacity of the Communist bloc to manufacture, stock and employ that number. Though we still do possess superiority, perhaps even a decisive one, in this sphere, it is likely to be as transient as was our strategic predominance when "massive retaliation" was declared to be the basis of our defence policy.

When both the "strategic" and the "tactical" advantages are lost we shall be faced with nuclear plenty across the board. Only then will our defence problem in the nuclear age fully emerge. It is against this coming that nuclear deterrence must be measured.

Given the qualitative variety of delivery means now available, it is characteristic of nuclear weapons that they immensely increase the flexibility with which military power can be employed. This results from the economy of effort with which nuclear destructive power can be delivered. Any military force that possesses nuclear power in plenty and has the ability to deliver nuclear weapons on all the appropriate targets can increase the power it exerts by easy stages, from any starting point up to the level of total annihilation, anywhere within range of its delivery means; and this increase can be accomplished, unless the action is strongly opposed, with much less effort than would be required to mount a conventional force for a minor "police effort." Mr. Dulles must have had this characteristic in mind when he emphasized the importance of highly mobile sea and air power as the most logical means of delivering deterrent nuclear power in the Pacific.³

When the stage of nuclear plenty is reached, the inherent flexibility of nuclear power is an asset to both parties to a nuclear conflict. The Secretary of State has said that "the essential thing is that a potential aggressor should know in advance that he can and will be made to suffer for his aggression more than he can possibly gain by it." But if his weapons and delivery means are comparable to ours it will be no easy matter to convince him. We may assume that he wants to avoid total nuclear war; he correctly

3. Remarks at a press conference, December 21, 1954.

4. Foreign Affairs, op. cit., p. 358.

makes the same assumption about us. The contemplated action then must be limited. Who defines the limits?

"Limitation," in a situation of nuclear plenty, appears to be the pawn in a game of wills. Either side is capable at any time of exerting force of such magnitude that the other side cannot defeat it, or make him "suffer" for it, without extending the existing limits of the action. The outcome of the game of wills must be determined by a balancing of acceptable limits, and the political advantage would appear to lie with the side that is the more willing to risk nuclear war.

The effectiveness of our threat to make the aggressor "suffer from his aggression more than he can possibly gain by it" will depend upon his estimate of the limits we will tolerate compared with the limits he can tolerate. So long as his threshold of tolerance is below what he believes we will tolerate the deterrence works. But let him believe that his limits are above ours and he may not be deterred by our threat of retaliation. If, then, we take the action we have threatened, we shall find ourselves in nuclear war, which, unless some limit is accepted, promises to grow into total war. But the side that first reaches its maximum limit admits defeat. As the defender, we might be willing to settle for stalemate. But, just because of its flexibility, once nuclear power is committed it probably cannot be effectively stalemated short of total war, certainly not unless both sides accept the same limits. And for them to be able to do so the limits must be identifiable and stable. This, as will be seen later, is the major

shortcoming of nuclear limits—that they are neither identifiable nor stable. In actual nuclear conflict, then, military initiative lies with the side that is the more willing to run the risk of total nuclear war, while the tenuousness of the limits makes the risk of total war very nearly incalculable.

III

Before we can compare the prospect of limiting war by eliminating the employment of nuclear weapons with the prospect of limiting nuclear war, we must establish the feasibility of conventional war in the nuclear age, and dispose of claims that if the United States gives up the employment of nuclear weapons it will be surrendering definite military advantages in the cold war.

The most difficult objection to dispose of is that arising from what is called fate: the bald assertion that nuclear weapons will be used in any future conflict between Powers possessing them simply because they exist. The assertion denies that mankind can control its destiny on the brink of annihilation. If so, it may be true that the nuclear dilemma defies solution. But if nuclear war can be "limited" human prudence is not powerless to control events. Hence it is not necessarily the case that we shall fail, if we undertake to establish as the first limit on future war the rule that nuclear weapons shall not be used.

A different argument is sometimes heard. It states that conventional and nuclear military postures cannot co-exist, and that, in a sort of military Gresham's law, the "bad"

currency of nuclear force will drive out the "good" currency of conventional force. This might be called the "any fine morning" justification for a commitment to nuclear arms: if we dispose our troops for conventional war, it runs, "any fine morning" the enemy can attack with nuclear weapons and wipe them out, while if we deploy them for nuclear war they cannot fight conventionally.

Of course we can adopt defence policies that will compel us to fight with nuclear weapons if we must fight at all, or we can let ourselves drift into such a situation. We can provide ourselves with forces that cannot fight effectively any other way, we can design our mobilization plans exclusively for nuclear war, and we can deploy our troops in the field in such numbers and in such a manner that they would be certain to be overrun by the enemy if they did not employ nuclear weapons. And all these actions will force our enemy to use nuclear weapons, too, if he has them. But these things are matters of choice, not of fate.

There is no denying that all future wars will be fought in the shadow of nuclear power. The fact that three nations now have the means to translate any conflict in which they become engaged into a war of nuclear annihilation will have its effect even upon those conflicts in which they are not engaged. And as other Powers acquire nuclear weapons, the shadow of total nuclear war will become more, not less, foreboding. This well may mean that "forces will have to deploy as if nuclear weapons might be used" in any conflict. Does it

follow that they cannot fight conventionally? It is impossible at this time to foresee with clarity the impact of nuclear weapons on future battlefields, whether these weapons are actually being used or just casting their shadow. But a reasonable case for the conduct of conventional war in the nuclear age can be made.

Conventional forces do not have to be massed in the manner of World War II, and it is quite unlikely that they ever again will be. Not only would the belligerents fear "any fine morning," but also those that could do so must support both conventional and nuclear forces and maintain reserves against the prospect of the conflict becoming nuclear. But an even more decisive consideration is the necessity that the conventional action be limited, which in World War II it was not. Unlimited or total, conventional war in the age of nuclear plenty is a contradiction. Not only would the side that mobilized its resources and deployed its forces for total conventional war invite nuclear attack under circumstances most favourable to its enemy, but also it would be exerting its force to such an extent that its enemy must almost certainly be driven to nuclear retaliation. Total war is designed to win, or to avoid total surrender, and "victory" in the familiar sense is incompatible with war's limitation.

The "any fine morning" argument assumes that tactical spearheads, which are the only combat elements in conventional war that must concentrate sufficiently to make attractive nuclear targets, would be so attractive that the other side could not resist attacking them with nuclear weapons. But

5. Kissinger, *op. cit.*, p. 356.

if failure to resist temptation meant opening the Pandora's box of nuclear war it is difficult to believe that success in any single battle, except the last extremity, would be worth it. And the last extremity, which involves the survival of the losing side, is ruled out by the nature of limited war.

There is no self-evident incompatibility between a military effort generally so organized and deployed as to minimize losses should the enemy suddenly shift to nuclear weapons, and the temporary grouping of forces in the field in such a way as to attack or to defend successfully with conventional weapons. Limited conventional war in the nuclear shadow is almost certain to be far more open, anyway, with smaller forces in contact, and with manoeuvre playing a major role. Those who state so confidently that troops deployed to minimize the danger from nuclear attack cannot fight conventionally seem to ignore the fact that both sides must be so deployed, because both must equally be prepared for nuclear attack.

Perhaps they are reflecting their feeling that neither side can hope to win in these circumstances, because of the indecisive nature of the military actions that would be possible. But it depends on what they mean by "win." They generally agree that nuclear war can and must be limited, which means that they rule out total victory and unconditional surrender. On the nuclear battlefield, then, if the action is to be limited, either a stalemate must be reached or one side or the other must abandon its effort when the risk of total war becomes excessive in a conflict that is not

"worth" it. Conventional warfare in the nuclear shadow means precisely the same, but without the additional risk inherent in the tenuousness of nuclear limitation.

Let us now examine military arguments that urge the advantages to the United States of nuclear defence.

The first maintains, paradoxically enough, that the employment of nuclear weapons in "tactical" warfare gives the defence the same decided advantage that their employment in "strategic" air war gives the offence. It has been said that this is so because, in the history of war, advances in mobility have generally favoured the offence, while advances in firepower have generally favoured the defence.⁶

Regardless of its historical validity, the rule is difficult to apply in the case at hand. The mobility of aircraft is combined with the firepower of nuclear weapons to give the strategic stalemate its character. It is not clear which of the two advances is determining. On the ground, firepower that cannot be freely moved and deployed may aid the defence to the disadvantage of the attacker. This is apparently what the machine-gun did during the early years of World War I. But mount the machine-gun on the tank and you have the mobile firepower to break the stalemate on the battlefield. Planes, missiles and even ground vehicles can deliver nuclear weapons on future battlefields. This looks like more mobile firepower. The destructiveness of nuclear weapons might eventually

6. Paul Nitze. "Atoms, Strategy and Policy." *Foreign Affairs*, January, 1956.

lead to heavy dependence on deep concrete emplacements for survival on the battlefield, and this would certainly stagnate the action. But mobility is an alternative, particularly if the action is to be limited.

Another version of the case that nuclear weapons favour the defence rests upon a tactical forecast. In this view, a defensive force armed with nuclear weapons will be able to use its nuclear firepower to prevent the enemy from concentrating for attack; hence, provided it has sufficient strength to guard its front against enemy infiltration, it cannot be attacked. Again the result would be stalemate on the battlefield. The argument must assume that the attacker will not be using nuclear weapons.

Given nuclear plenty, the attacker will use his nuclear firepower against the defender's nuclear weapons at the point of attack. When he has neutralized them he can concentrate to overrun the defender's screen of troops. There seems to be no reason to question that the attacker can blast his way through any defence, provided he has the means and is willing to pay the price. The balance of the opposing forces in weapons, training, morale and leadership, and the "hardness" of the defence, that is, the extent to which there are underground fortifications, will doubtless play something like their familiar roles, allowance being made for the high probability that percentage casualties on both sides will be far greater than in recent wars.

It is possible that space limitation may play a new role on nuclear battlefields. When dispersal is essential to survival there may

be an upper limit to the number of nuclear weapons that either side can employ, a limit set not by stockpiles or numbers of troops but by the ability of their delivery means to survive nuclear attack. If so, the decisive factor may not be the number of weapons used on both sides but the ratio of attacking weapons to delivery means being attacked. The ratio will favour the offence only if the defence occupies a smaller area. The consequence of a ratio unfavourable to either side would be a tendency to raise the limits of the area of conflict in order that more weapons can be used or to increase the chance of survival of delivery means, which comes to the same thing. Either side may open another theatre or attack the sources of the enemy's nuclear power outside the theatre. The prospect illustrates the difficulty, given the flexibility of nuclear power, of limiting a nuclear action. If there is no critical area limitation, as, for example, might be the case in Western Europe, it seems evident that whatever advantage one side may gain by using nuclear weapons can promptly be topped by the other side by using more of them, using bigger ones or using them on targets not previously attacked.

Another military argument for committing ourselves to the employment of nuclear weapons is the so-called fire brigade theory. One of our problems is how we can honour our treaty obligations to the small Powers on the Communist periphery. The earlier notion that we could do this merely by using our strategic or naval air power to deliver nuclear bombs on the aggressor has been found wanting. Despite the Secretary of State's claim that

such action could be taken without endangering "unrelated civilian centres," nuclear bombing of this sort resembles total war too closely for comfort. What happens, for example, to "related" civilian centres? And as for offering the ground forces of our small allies close support with nuclear weapons from the air, we know too well the difficulty of providing effective conventional air support to our own forces to be hopeful of the results. With nuclear weapons only a few mishaps could be disastrous for the defenders.

The proposed solution, then, is to provide highly mobile ground forces, armed with nuclear weapons in the "tactical" sizes, that can be air-lifted anywhere in the world on short notice. These "fire brigades" would be sent in to support the armed force of our allies threatened with attack, or under attack, by the superior ground forces of the Communist aggressor. Because of the tremendous firepower inherent in the employment of nuclear weapons, such forces (according to the theory) would be the equivalent of conventionally armed forces many times their size. And so they would be.

The theory is sound as long as we alone are able to organize and deploy such forces, or as long as the aggressor has no effective defence or counter-attack capability against them. But while that condition prevails it is doubtful that we need them except in token strength to prove what we can do. The problem of defending our allies does not become an acute one until the aggressor believes that an attack on them might succeed. And he will not believe it until he, too,

has the weapons and delivery means to mount such forces, or to counter them.

The fire brigade theory is another application of the notion that we can defeat aggression with "limits" to the action that suit our convenience; actually the plentiful possession of nuclear weapons and means of delivery permit the aggressor to expand the scope of the action to limits that suit his convenience. It does not follow that we should not develop such forces; there is an imperative necessity that we be able to apply our nuclear power flexibly and promptly if forced to do so. It does follow, however, that the provision of such forces is no panacea for the defence problems arising from our treaty obligations in the age of nuclear plenty.

It appears, then, that all claims that dependence upon nuclear weapons will yield us a return that we cannot afford to give up, despite the risks, rest upon some advantage that we are supposed to have over the aggressor that we cannot exploit without using nuclear weapons. But upon examination these advantages turn out to be questionable or, at best, temporary. In neither case do they justify the greater risk of total nuclear war implicit in reliance on them, unless there are better grounds for hope that nuclear war can be limited than have been found so far.

IV

The alternative proposals for limitation of war in military terms may now be examined and compared.

Advocates of nuclear deterrence commonly rest their case that nuclear war can be limited on the possibility of confining the employment of nuclear weapons to "tactical" uses of the smaller sizes. Though one of them has said that "there exists no way to define a limited war on purely military terms" because "wars can be limited only by political decisions, by defining objectives which do not threaten the survival of the enemy," he adds that "the possibility of keeping a limited nuclear war limited depends on our ability to extend the range of low-yield weapons of a kiloton and below, and to devise tactics for their utilization on the battlefield."

It should be added that "military necessity" is not a "purely military" finding. It was not a decision made by the military that committed us to unrestricted submarine warfare in World War II, nor to the massive "strategic" bombing of enemy cities, nor to the use of the atom bomb on Hiroshima and Nagasaki. It will be said that without these actions the war would have dragged on for years, at the cost of many more American lives. This objection illustrates precisely what is meant by military necessity.

Under the dictates of military necessity the attempt to bar "strategic" employments of nuclear weapons would only have the result that any uses that are deemed necessary are regarded as "tactical." This is illustrated when the proponents of this particular limitation say that urban areas in the immediate "battle area" would be exempt from immunity as "strategic" targets, and that the battle area might

be 50 miles deep. But why just 50 miles? Why not 100 miles, or 1,500—the range that identifies the intermediate range ballistic missile, the IRBM? Would the enemy's air bases or his missile launching sites be exempt? Would he exempt our ports? Certainly the combat zone, even excluding attack upon general reserves and war "potential," will be hundreds of miles deep. If we wanted to ensure that our ports would be spared, for example, in the defence of Western Europe, we should have to grant immunity to many targets we considered "tactical." Military necessity would dictate that we choose limits in terms of advantage and disadvantage rather than for clarity and stability. It is questionable whether we could resist this necessity, and quite unlikely that the enemy would long tolerate our enjoying an advantage.

Efforts to limit the employment of nuclear weapons in terms of explosive power would run into similar conflicts with military necessity. But there is an additional difficulty, that as the gradations are potentially continuous there are no practical cut-off points. Imagine our trying to maintain a limit at, say, 50 kilotons or less in the face of the claims from our men in the field that the enemy was using weapons of 100 kilotons or more, a claim that could neither be confirmed nor refuted without extended and time-consuming scientific detection and analysis. Limitation below megaton sizes, to reduce the fallout hazard and limit indiscriminate killing of civilians, might survive until their explosive power, and fallout, became a military necessity "to save American (or Russian or British) lives."

7. Kissinger, *op. cit.*, p. 357, 361.

Small bombs are not being developed for humanitarian reasons, but for the military reason that in the employments for which they are designed they are more, not less, destructive. They can be used in the proximity of our own troops, where the enemy must concentrate his forces for attack. But not all "tactical" targets would be close to our own troops, and those that were farther back, that were "harder" or whose location was not precisely known, could only economically be attacked with more powerful weapons. It will be objected that even small nuclear weapons are large by comparison with World War II TNT weapons, and that only a comparatively few of them would be required to do the job of a larger bomb. This is true, but it does not eliminate the problem of economy in lives and delivery means, which are likely to be the really scarce articles in nuclear war. Considerations of economy alone would dictate the use of thermonuclear bombs against certain "tactical" targets.

But the critical consideration, for purposes of this analysis, is the difficulty of making any nuclear limit work. Even if the risk of thermonuclear war inclined men to want to make the limits work, the odds would be against them. Military necessity, given the flexibility and the awful destructiveness of nuclear weapons, would place them in the grip of forces they could probably not control. To permit the enemy to enjoy the advantage that he would gain by broadening the scope of the conflict, or raising its limits, perhaps even for a single day, could be disastrous. By the same token, the temptation to seize such an advantage might be irresistible. And,

at the same time, in the general near-chaos of the nuclear battlefield it would be virtually impossible to know what the existing limits were and whether they were actually being observed or violated.

In contrast to the fatal uncertainty of nuclear limitation, the limitation of war by eliminating the use of nuclear weapons has a decisive advantage. It is one of practicality. Because of the sharpness of the limit there could be no marginal, no hidden, no unwitting violations. The action would be slower, less chaotic; judgment would have a better chance to function. One side might still win in a day if it could have a day's exclusive use of nuclear weapons. But neither side could hope to get away with it, because its offence would be known instantly, and it would know what retaliation to expect. In these circumstances it is possible to believe that a viable limit might be set to military necessity.

It has already been said that there would have to be limits on conventional action as well, to bolster the distinction between conventional and nuclear destruction and to avoid rendering the loser so desperate that he will resort to nuclear weapons in defiance of common sense. Conventional war can approach uncomfortably close to the destructiveness of nuclear war in special circumstances, such as our fire-bombing of Japanese cities. These additional limits would be subject to marginal errors and violations, but the urgency to retaliate would be of an order quite different from that following the violation of a nuclear limit, and the interest of both sides in maintaining the ban on nuclear weapons would dispose

them to avoid ambiguous action and to curb their retaliatory impulses in cases of apparent violation. Conventional war in the age of nuclear plenty both must and can be limited; it is very unlikely that nuclear war can be.

V

The military arguments for nuclear deterrence do not exhaust the case for it. They may, in fact, have played a minor role in the change in our defence policy that was mentioned at the outset. Arguments derived from economic considerations have been more prominent, though, of course, they cannot be considered in isolation from the military prospect.

Mr. Dulles said, when he proclaimed massive retaliation, "We want, for ourselves and for the other free nations, a maximum deterrent at bearable cost." For him and for most of the advocates of nuclear deterrence, costs are bearable only if nuclear weapons are to be employed.

It is characteristic of New Look defence planning that nuclear weapons are thought of as labour-saving devices. We have made a good thing of such devices, from hand tools to automation. They have enormously increased the productivity and hence the value of our workers. Why, then, should we take one of them off the production line, where he is worth perhaps \$6,000 a year to our gross national product, and put him in the battle line against a Russian or a Chinese whose presence at the front is costing Russian production little and

Chinese production nothing? If we work with machines, why not fight with machines, the ultimate war machine being, of course, the nuclear weapon?

The argument would be quite persuasive if the Russians and Chinese had no nuclear weapons. No one has ever doubted that a small nuclear force could defeat a far larger non-nuclear force. But this is not the problem. If nuclear weapons reduce military manpower requirements, in some real terms, the effect must be roughly the same on both sides. On whether they do or not, the experts have not yet decided. The problem is in good part one of definition; because if using nuclear weapons enables a military force to produce greater destructive power with fewer men, using more nuclear weapons with the same number of men will produce even greater destructive power. It has already been said that the density of nuclear battlefields will be lower, but it does not follow that superior numbers will not be an advantage to the side than can provide them, equip them with nuclear weapons and use them. Even when the battle area is restricted there must be a high proportion of replacements in being somewhere. By proposing to use nuclear weapons we do not dispose of the need to determine how many forces we should maintain, and that determination must be influenced by the number of nuclear forces the prospective enemy has or can have.

In addition, the argument based on our productive superiority breaks down to the extent that the Russians, and eventually the Chinese, too, by arming their forces with nuclear weapons, are enabled at a

single stride to overcome our tremendous production advantage. The Red soldier may still be worth only a pittance in terms of his potential contribution to the national product, but his nuclear weapons are just as deadly as ours, and not many more of him are needed to deliver them. Emphasis upon nuclear warfare, in fact, to the degree that it enables the Communists to concentrate their scarce resources in a limited area of production, appears to be tantamount to abandoning just that much of the advantage given us by our general productive superiority. For this reason a war fought with complex and expensive conventional weapons, but with the prospect of a far smaller loss of valuable lives than in nuclear war—it being assumed that the war must be limited in either case—would appear to be the better bargain for us.⁸

There are ways of using our productive superiority and our technical ingenuity to save manpower, and lives, in conventional war. We have proved this in recent wars. The lesson of Korea in this regard has often been overlooked, for most critics have been preoccupied with visions of what might have been accomplished if we had raised the limits of that action. The lesson is that the forces on our side consistently opposed forces two to four times their number. This was true not only of American and British Commonwealth troops but also, during the later period, after they had been trained and equipped, of Korean troops. During the last year of the action we proved that

we could actually mount effective offensives against superior numbers. We used our productive capacity and our technical ingenuity to compensate for the inferiority of our numerical strength. And the forces opposing us were not just peasant masses, they were the best that the North Koreans and Chinese could put in the field with massive Russian support. Furthermore, we accomplished this when much of the product of our rearmament effort was going into our strategic reserves and to our European allies against the possibility that the war might become general.

Even so, Korea was fought on the pattern of World War II. If it was the first war of the atomic age, in which the limits of the action were imposed by the existence of nuclear weapons, it was also possibly the last war fought without full realization of the impact of nuclear weapons. The nature of conventional war in the nuclear age is no more evident than the details of nuclear war itself. It seems reasonable to assume, however, that conventional combat would be hardly less dispersed than nuclear combat, that mobile firepower will play the major role, hence that our ingenuity and productive skill will be fully challenged to supply our forces with the latest tools of war. Air transport, air supply and air support are obvious fields for further exploration. Missile technology has possibilities that are not restricted to the destruction of cities with hydrogen bombs. Communications and command problems of extraordinary difficulty and complexity will tax our abilities, but they will be taxing abilities in which we are superior to our enemies.

8. See "Military Policy and National Security," W. W. Kaufmann, ed. (Princeton: Princeton University Press), 1956, p. 250.

The power to inflict destruction cheaply is not the same thing as the best or even the most economical defence. It is true that a handful of men on both sides can most economically wipe out civilization if that is the object. The cheapest way to do it at the moment, despite the increasing cost of modern aircraft, is with strategic bombers and thermonuclear bombs. In a few years long-range missiles will make for even greater economy. But this economy is not real, because it is not measured by something that is desired. What we desire is a defence that does not lead to total war.

For us, of course, there is no such thing these days as a force committed only to conventional weapons. The alternative is between a preclusive commitment to nuclear combat and the maintenance of our ability to fight nuclear or conventional war. The latter does require extra effort and extra expense; there is no disputing the saving inherent in developing a single capability, whether nuclear or conventional. But the additional cost—perhaps largely in the maintenance of artillery weapons, troops and supply—seems a small price to pay for the improved chance of our ultimate survival if war can be kept conventional.

It cannot be said with certainty, then, that the number of troops we should maintain is importantly different whether the prospect we face is limited nuclear war that we hope to keep limited or conventional war that we hope to keep conventional and limited. It will depend, as always heretofore, upon a variety of circumstances, many of which have their origin outside the field of military competence.

VI

The reader must of course ask whether our cold-war enemies will benefit if we decide that a ban on nuclear weapons is essential to the limits that must be imposed on war. Will it only incline them to use their nuclear weapons, or will it enable them to exploit their ground-forces advantage in conventional war? The answer goes back to the first assumption—total nuclear war is an imminent and deadly peril to all mankind. It plays no favourites, and only the nuclear Powers can do anything about it. We and the Communists are forced to collaborate in the search for an effective limit to war, regardless of other differences. It is reasonable to expect them to follow the same line of speculation that we have followed and to come to the same conclusions. It would, in particular, be grossly shortsighted of them to assume that nuclear plenty leaves their conventional masses in possession of the field. These masses are appropriate only to unlimited conventional war, and the only unlimited war in the nuclear age must be nuclear.

Each side in the great conflict must feel its way. If they must recognize that conventional force cannot be used without limit, we must abandon our preference for crusades, our feeling that wars are only justified if they end in total victory over a hated enemy, that limited wars are "phony." Major emphasis upon avoiding war is justified because the risks of total war are so much better known than the effectiveness of the steps that can be taken to avoid them. But we cannot treat "peace" as an end in itself, and they are not likely to do so. "Peace" in this sense would

tend to petrify the status quo and bottle up the dynamic forces loose in the world. An eventual explosion would be inevitable, upon which it might be impossible to impose limits. Limited war may be regarded as a safety valve to prevent such an explosion. It will fail if overloaded—if, for example, the Communists try to use their manpower advantage to gain their ends under protection of the nuclear ban, or if we lose patience and try to use war to effect the kind of epochal resolution of conflict that we have expected of great wars in the past.

All these things we see darkly. But our vision is needlessly obscured by the two related false notions: one, that nuclear power is just another weapons development, like gunpowder, that can be used to strengthen the arsenal of freedom; and the other, that a comfortable nuclear lead is the guarantee of our security. Nuclear destruction is not like gunpowder, which gradually changed the military art over centuries and had negligible effects on the balance of power among Western nations. Nuclear power, in little more than a decade, has introduced an entirely new dimension into human affairs—the dimension of mutual annihilation. And our nuclear lead is perishable. We cannot much longer avoid facing the nuclear age.

The prospect is disturbing, particularly to those who have thought that we could depend upon our nuclear advantages. It was not in the cards that we should owe our security to divine favour. The future counsels prudence, but not faint-

heartedness. While using every opportunity to reduce international tensions and to extend the reign of order among nations, we must work positively for the limitation of war. To this end we must exert ourselves to the utmost in the technological competition to prevent the balance of advantage from shifting to the other side, and we must make it quite clear that we are prepared to risk annihilation itself to prevent Communist conquest by default, either by threat of nuclear terror or by conventional arms under cover of the nuclear ban. We must, in short, guarantee that only effectively limited hostilities can be rationally undertaken.

Moreover, we must be prepared to fight limited actions ourselves. Otherwise we shall have made no advance beyond "massive retaliation," which tied our hands in conflicts involving less than our survival. And we must be prepared to lose limited actions. No limitation could survive our disposition to elevate every conflict in which our interests are affected to the level of total conflict with survival at stake. Armed conflict can be limited only if aimed at limited objectives and fought with limited means. If we or our enemy relax the limits on either objectives or means, survival will be at stake, whether the issue is worth it or not. But saying that we must be prepared to lose does not mean that we shall lose, particularly in the long run. Our strengths are many, not least the fact that our revolution offers a better promise to mankind than the Communist alternative.

STRENGTH THROUGH AIR TRANSPORT

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HISTORY has shown us many great nations whose economies and war potential rested broadly on one main element of the national structure. Ready examples of this type are: Britain, a sea power which largely depended on the sea carrying trade for her income, and in turn upon the Royal Navy for her defence; and the USA, the acme of machine power, which has risen to greatness largely through the development of the motor vehicle and vehicle power, which has in turn enabled her great material wealth to be tapped and, more recently, the free world to be defended by her great land and air forces.

Military philosophers warn us that nations, like individuals, cannot avoid their destiny; that they must develop along lines which accord with their geography, strategy, and national psychology. Thus mountaineers will favour guerrilla armies, and island dwellers navies; the Tartars became light cavalry and the Finns excel as ski troops. So we may assume that if an Australian Minister of Defence were

granted one wish for Australian defence purposes by his good fairy, he might pass over such tempting possibilities as Selective Service; the raising of the school-leaving age to 18 (surely a necessary reform in the interests of military technology!); or even a gift of atomic reactors; and, without hesitation, ask her for a gift which accords with the realities of Australian strategy—a comprehensive civil and military air transport system. That is, a force adequate both to develop Australia and to assist in her defence.

This preference would shock those self-satisfied people who already lightly assume that Australia has enough or perhaps even too much air transport. Mature thought should convince them that two factors demand air transport.

Firstly, there is our peripheral position in world geography, with our own great surface area to defend. Then there is the need for the planned dispersal of the civilian economy and the military assets within that system. This is apart from the natural dispersion of our raw materials and the metropolitan

areas. Australia thus needs transport air power more than any other nation on earth (including the USA with her vast commitments), and more than even our own transport experts care or dare to acknowledge.

Transport Chaos

It comes as no surprise to find that transport consumes an inordinate share of our national expenditure, in fact, twice that of any other similar nation—approximately 40% compared with a maximum of 20% in comparable overseas lands.

Future Australian historians may well refer to this present time as the Era of Transport Chaos. Rarely a month passes without the body politic being upset by some defect of the external or internal transport system. It is only necessary to consider a few examples, such as the following, to be convinced of this truism:—

- (a) Rises in overseas shipping rates adversely affect our balance of trade.
- (b) Deterioration in the trunk road system has interrupted interstate haulage traffic.
- (c) Wharf strikes are endemic.
- (d) The unco-ordinated railway transport system leads to inefficient carriage of freight, and uneconomical railway operation in general.
- (e) The demand for railroads or air transport to open up new areas, particularly in Northern Australia, is actively debated, without conclusions.

Military Significance

The reader, while agreeing with this thesis, may, at this stage, ob-

ject that these are ills of the civilian economy alone, without military significance. Such is the effect of this national bottleneck that, in fact, every aspect of development suffers, including defence. Defence is affected principally on two planes:—

- (a) Our basic war potential, that is, capacity to expand industrially, equip and to mobilize and position forces for war, is only as good as our transport can make it. The movement of raw and finished materials is a dominant aspect of industrial mobilization. Some thinkers have in fact characterized it as the primary basic human activity. Under Australian conditions air transport can ensure the necessary adaptability and flexibility required.
- (b) Once war becomes imminent, complete mobility over the adjacent land and sea masses of the South-West Pacific will be necessary. For this purpose air transport will be essential.

It is thus proposed to prove that in essence the Australian military and civil transport problems have a great deal in common and are open to similar solutions.

Current Airportability

The AMF was in the vanguard of air transport development. The deployment and logistical support of forces in the South-West Pacific became textbooks for later Allied air transported operations. Since then our real interest in this subject has declined. The moribund techniques of airportability have been barely saved from oblivion by the School of Land/Air Warfare. Trooping of

soldiers, generally without weapons or vehicles, to Japan and Korea has been carried out by the RAAF and Qantas. Nevertheless, practical exercises in true air mobility have been conspicuously absent. We have no units, leave alone formations, with recent experience of movement to battle with vehicles, weapons and equipment, ready for immediate action. Since allusions to the possibility of air movement of Australian forces to South-East Asia have frequently been made in public, it is pertinent to note that neither the RAAF nor our much-vaunted civil aviation possesses the requisite aircraft for such operations at full scale, e.g., with full artillery and armoured complements, although modified light forces could be accommodated. Nevertheless, as the Chief of the Air Staff recently emphasised, the RAAF is acutely aware of the need for an adequate air transport force to give mobility to conventional air forces.

The National Air Transport Requirement

Civil

Classical economists have hitherto been able to rank transport media in order of efficiency and cost, in relation to the tonnages and distances they cover. But Australian operating conditions, by reason of such factors as lack of co-ordination, and the great distances between the main population concentrations, appear, partially, to defy these principles. It has been a remarkable fact that long-distance road haulage has almost ousted coastal shipping and railways even for some relatively bulky and low

priority loads. In such extraordinary conditions prophecy is dangerous. However, it would be fair to state the normal civil air transport requirement in peace as follows:—

- (a) Passenger traffic; overseas, interstate and feeder services. These requirements are, generally, already satisfactorily met, because they are the easiest to meet and the most profitable to provide. These services give rise to extravagant claims that Australia is the most air-minded nation in the world and to the dangerous, immature assumption that we already possess enough air transport.
- (b) Express freight services, of the inter-capital city type, conveying light, urgent, perishable, or fragile articles. This service is similar to the passenger service and, for the same reasons, is apparently adequately met, although there are probably other potential fields as yet untapped.
- (c) Heavy and bulky freight lift to and from outlying areas, e.g., air beef lift in N.W. Australia, and cargo service to uranium mining areas in North Queensland and NT. In this field, through the pioneering efforts of private individuals, a magnificent beginning has been made; but the type and scale of the enterprise is considered no longer adequate to ensure the scale of development which is needed.
- (d) It is further believed that the need will now arise for an international air freight lift to our natural markets in South-East Asia. There is an embryonic service at present,

carrying out luxury foods and racehorses or bringing in, for example, Brahmin stud cattle, or rhesus monkeys for vaccine. This will never wholly displace surface shipping, but will be complementary to it.

Military

The defence needs from air transport comprise briefly:—

- (a) Essential communications and freight lift of material, within and without Australia, including scheduled military services.
- (b) Strategic lift for the three defence services, e.g., reinforcement of Malaya and subsequent long-range logistical support of the overseas theatre.
- (c) Tactical air transport, mainly in support of the AMF, e.g., airborne operations, tactical air supply, and air transported operations.
- (d) Supplementary close forward transport support for ground forces.

Civil Development Through Air Transport

The role of civil air transport in national development has been restricted in the past by a "laissez faire" policy, and by the strictures of the transport economists juggling in pence per ton/mile. The railroad builders in the 1870s were credited with the virtues of nation-building, and the taxpayer was forced to underwrite developmental railroads; indeed, his great-grandchildren unwillingly continue the process. Air transport has already been subsidised directly and indirectly, but the general tendency has been to enforce sterner economic laws. It is shortsighted to treat air transport as a minor factor in de-

velopment. Without becoming involved in one of the classical arguments of political economics, it is axiomatic that some basic national enterprises require planned investment without restriction to immediate profit-making. One lesson should be drawn from the history of the British Empire between the two World Wars. The British often tried to run their Empire on a business, balance-sheet system. Thus, during the thirties, the old Imperial Airways, which had pioneered the Eastern air routes, was running comparatively slow services, while KLM, using these British installations, scooped the pool with swift, modern services.

We cannot leave the major development of our vast territories to the crayfish and strawberry exporters, the gold dredgers, or even the Air Beef. They are enlightened pioneers, but the scale of effort now required is beyond their incentive and capacity. We should rather revert to the old British system, exemplified in the Navigation Acts, whereby the Government steps in to ensure the growth and retention of essential transportation services.

We hear a great deal about the railroads needed in the Far North, e.g., across the Barkly Tablelands. If these discussions gain the necessary political and financial support, we are likely to see new railway development which must with effluxion of time be rendered as obsolescent as so much of the existing South-Eastern rural system. The only bold and far-seeing approach is to adopt a policy of major air transport development, based on Australian future needs and the overriding requirements of development.

Such a system must include provisions for ultra-heavy lift, e.g., coal for Mount Isa or machinery for New Guinea, which none of our existing types of aircraft in service can satisfactorily provide. It must also be suitable for large-scale livestock moves, both for routine marketing, as well as for emergency lift from drought areas to watered areas. The aircraft employed must be able to operate from simple unpaved strips, otherwise they will be confined to operation, from main airports of the existing types, which will not suffice in numbers for the development of marginal areas, and are too expensive to build in many undeveloped areas.

Commonality in Military/Civil Transport Requirements

It will be quite apparent that Australian military and civil air transport requirements have much in common. Some of the most important common characteristics are, simply:—

- (a) Cargo accommodation for heavy bulky loads, e.g., Centurion tank or bulk mineral lift.
- (b) Liquid lift, e.g., fuel or water.
- (c) Ability to land on simple landing zones or strips.
- (d) Adaptability to quick loading and discharge.
- (e) Adequate range. e.g., a minimum of 2500 miles.
- (f) Pressurization for tropical operations and passenger carrying.
- (g) Simpler, less expensive aircraft, easy to produce in peace, and dispose in war.

It is only fair to mention certain other desiderata, which do not coincide. Thus the military user may

require parachuting facilities, while the civilian operator looks for operating economy, or passenger comfort. Leaving out such obvious dissimilarities of interest, there are clearly defined common fields in which one small family of aircraft types could meet both civil and military requirements. The forerunner of such coincidence was a civil transport, the DC3, which became the first really effective military transport—the C47 (Dakota).

Types of Aircraft Required for the Dual Military/Civil Role

The aircraft industry has already produced many military aircraft which offer some of the desirable characteristics required in an Australian air transport service. Thus the C130 (Hercules) gives the desirable range, a modest payload, but is expensive, and requires paved airfields. The C124, with a 30-ton payload, a good range and excellent cargo-handling facilities, is also of interest. The new Douglas C133 looks promising, with about 50 tons payload and a good range. Unfortunately, all these types lack certain essential characteristics; notably they all require expensive permanent airfields for operation. The Beverley and the Bristol Freighter, which have fixed undercarriages, can operate from quickly prepared airstrips. Their performance in speed and range is, however, far from satisfactory. They can undertake military tasks approaching air landed assault, and can operate into most outback airfields. Obviously there is scope for the designers to evolve from such prototypes a suitable general purpose military/civil type. It should have a payload of 50 tons (plus), a range of 2500 miles,

ability to land on unprepared strips and be adaptable to troop carrying and parachuting, including heavy dropping. The emphasis on rendering aircraft independent of massive airfield construction is greatly increased by the nuclear threat to such airfields.

Light Cargo Aircraft

There are also military and civil roles for light cargo aircraft of the Twin Otter/Twin Pionair type. These can undertake tactical and logistical tasks in the forward area, such as the flying in of light forces, the evacuation of casualties or the insertion and recovery of SAS deep reconnaissance patrols. The Caribou (Twin Otter) looks particularly promising. It has a cargo compartment which is approximately the same as that of the Dakota in payload and dimensions. In landing and take-off characteristics it is reputedly most versatile, requiring an average run on take-off and landing of 120 yards, and has a range of 1,000 miles. Such an aircraft could lift typical B vehicles and medium-sized equipments. It is probable that the aircraft will be constructed in Australia. The Twin Pionair, although smaller and of shorter range, is yet a most useful cargo aircraft. Such types would have feeder roles in civil use, and be powerful logistical aids in war.

Thus two, or at most three, basic types of transport aircraft would give us the required forms of military lift and the civil development transport we need. Helicopters have not yet been specifically considered here, since they may not bulk as large in the civil field as conventional aircraft. Nor have vertical take-off types been specifically

treated, as they are not yet sufficiently advanced to take their place in the system.

Airfields and Undercarriages

This technical problem is a hardy one, which does not easily yield to any one simple solution. It is affecting air transport costs in two main respects: in the solid, permanent runways required by modern aircraft, and in the expensive and complicated landing gear which must be fitted to the aircraft. In Australia the Director of Airport Engineering recently estimated the cost of immediate new airport development required at £30m, and called for local authorities to contribute to these capital costs. Modern jet and turbo-prop aircraft have necessitated these improvements, which will take ten years to effect. As this construction is required to meet existing traffic needs, any additional developmental construction can be assumed to require a similar order of expenditure. For our peculiar civil and military needs, particularly in operating under the nuclear threat, there is an immediate requirement for the design of an effective transport type which is able to land on the simpler, cheaper landing strip. Here is scope for a purely Australian project, not without sound overseas precedents, such as the Beverley, the Bristol Freighter, the Chase Avitric and the Caribou.

Production of the Required Aircraft

The history of Australian aircraft production is one of stubborn initiative and determined efforts at self-sufficiency, not unmixed with disappointment. The Wirraway, the Boomerang, the Canberra and the Super Sabre have all been effectively produced locally. There has

been a remarkable efficiency in producing high-grade aircraft, coupled with a persistent incidental obsolescence caused by the time lag in adapting overseas design to local production. Much of the present crisis in local aircraft production is attributable to this handicap. Meanwhile the RAAF has no transport aircraft, and our aircraft factories have no orders. It came therefore as a surprise when Sir George Jones recently rebutted the published advice of the RAF Chief of the Air Staff that the Australian industry should turn from fighter production to transport aircraft manufacture. Australian services obviously need new transport aircraft, and if local factories could be adapted to manufacture either local or overseas designs of transport aircraft, a real and urgent need would be met. Otherwise they must be bought, presumably with scarce dollar currency.

Apart from the very considerable resources of the Government aircraft factories, there are private enterprises such as De Havillands, the makers of the Otter and the Caribou, which could, given the necessary official assurances, proceed to manufacture the required aircraft. Failing local manufacture, the aircraft industries of Britain, Canada and the United States are at our service. Production is therefore primarily a question of money and time. Since transport aircraft are less prone to early obsolescence than other military types, they should be produced by Australian factories (which already produce durable and satisfactory trainer types of aircraft).

Ownership and Operation

There are several methods of

owning and operating a dual purpose air transport force of the type we need. It would be improper here to enter into any incidental political or economic issues affecting their operations in peacetime, but the main possibilities are the following:—

(a) *RAAF Ownership and Operation*

This would presumably have to be severely limited. It would be similar to the original American airmail services, in which military aircraft participated. Unless it could undertake profitable civil work, it would prove too costly. Probably a portion only of the total transport force should be owned and operated by the RAAF.

(b) *Government Corporation Ownership*

This would be feasible on the existing basis, whereby the Commonwealth operates civil airlines, e.g., TAA.

(c) *Lease or Subsidy to Privately Owned Airlines*

This is equally feasible. The aircraft would be used for scheduled or chartered operations. Under this and (b) aircrews would be trained and maintenance staff and facilities developed, and full peacetime use would be ensured.

(d) *Creation of a Separate Air Transport Department or Service*

This would be a public service, essentially of a developmental nature, concentrating on important national transport tasks, particularly in Northern Australia and New Guinea. This has the merit of being immediately available in any emer-

gency, and, by central direction, could easily be organized and trained fully for its dual role. Apart from the economic aspects, which might necessitate a mixture of private and public operation, this method most commends itself to the military user because it ensures effective control. Nor does it preclude civilian use.

The aim of these operations would be the creation of an air transport force to serve the development of Australia in peace and defence in war. It is noteworthy that recent public utterances, particularly by overseas shipowners, emphasize the indispensability of surface ships to transportation under peace and war conditions. Once the heavy lift aircraft becomes a practicable proposition, the ship must, in fact, despite its economies, become dispensable in both fields. The inroads of aircraft upon the trans-Atlantic passenger trade already foreshadow such a change. Meanwhile Australia is faced with immediate problems of buying or building new coastal and overseas shipping, much of which could be eliminated by the introduction of suitable transport aircraft, which confer greater flexibility than ships.

Some Quantitative Factors

It is inconclusive to approach this subject without assessing the numbers of aircraft required and the extent of the ancillary sources and installations needed. This statement must be based on certain average assumptions of the following nature:

(a) RAAF Air Transport

For this purpose recent RAAF public statements should be accepted at face value, that the new Hercules aircraft now be-

ing purchased are required for the RAAF's own mobility. It should then be assumed that, supplemented by a proportion of civil airlines' aircraft, they would suffice for the RAAF, but only produce a bonus of lift, on exceptional occasions, for the other services.

(b) Australian Civil Air Transport

This highly efficient industry constitutes a most valuable military asset, but must not be overvalued. Most of the aircraft types, e.g., Convair, Viscount, have structural limitations in door and compartment sizes which reduce their military value to mainly Scheduled Service functions, or, at best, air trooping and light cargo duty. Even the Skychiefs and Constellations are awkward and slow for the loading of military equipment. Moreover, these types of aircraft require full modern airport construction from which to operate. Furthermore, it is problematical whether any great number of civil aircraft could be released in war, since, although domestic travel and luxury freight can be prohibited, legitimate transport activity may increase by 50% in war.

An optimistic view is that some 30 large civil aircraft could be released, capable of strategic lift of personnel only, of a brigade group from Melbourne to Singapore in 24 hours or of a division in a week. Meanwhile, our international air traffic would be at a standstill, and indeed it would first be necessary to concentrate these aircraft in Australia be-

fore they could be used. There would still remain the task of moving the 5,000 tons of brigade group equipment, and initial reserves of 15,000 tons for the division. This would therefore have to be positioned in advance or moved in specially procured aircraft. The fly-in would also of course, depend on the possession and survival of suitable airports, which can be neutralized by one 20 KT ground burst. For technical and design reasons therefore our civil airlines can only be expected to provide a limited but very useful strategic lift.

(c) *The Unsatisfied Tactical Demand*

If full airportability of the AMF is to be ensured in South-East Asia and on the Mainland, there remains the vital task of air transporting our brigade groups into tactical operations. Assuming that we accept a tactical assault aircraft of suitable capacity and 10,000 lb. payload, which can land on crude Landing Zones like its forerunner, the glider, we will require about 300 to 400 sorties, depending on the size and type of fire support included. In five turn-rounds, such a force would require at least 60 assault aircraft as first-line transport. If our light forward aircraft is of a suitable type, e.g., Caribou, to supplement this tactical lift and sufficient in number to lift the smaller tactical loads, e.g., $\frac{1}{2}$ -ton trucks, mortars and crews, then, by careful integration, the number of assault aircraft might be reduced let us say to

half. Thus, at this minimum level, say at least 30 medium assault aircraft and 45 light forward lift aircraft would be required for the somewhat leisurely fulfilment of the task. As the basic circumstances and factors must vary greatly from such causes as force composition, distance involved, the degree of delay and dispersion in the delivery of the force which can be accepted, etc., this estimate is only a pattern of the ultimate problem, but serves as a starting point.

(d) *Maintenance by Air*

Subsequent air supply and casualty evacuation would be less demanding on our air transport force. Aircraft from RAAF, civil air transport, e.g., C54 Skymaster, the assault transport force and light forward airlift should all be capable of this task, and available. An estimate of their capacity at 200 miles' radius is:—

- (i) 45 serviceable light transports at 4 turns round per day—500 tons/day.
- (ii) 30 assault aircraft at 3 turns round per day—360 tons/day.

Such a force could therefore support a division at intensive rates in all requirements, or with some supplementation from RAAF and civil aircraft, two divisions at normal rates of activity.

(e) *Airborne Operations*

The provision of aircraft for the dropping of one battalion at full strength would call for multi-purpose heavy dropping aircraft, e.g., Hercules, or could

be carried out by assault aircraft if an improved Chase Avitruc type were adopted. The numbers proposed above are ample for the task.

(f) *The Extent of the Civilian Development Demand*

This requirement is more difficult to assess than the military task. It deals in futures. It exists now in areas inadequately or infrequently served and developed by existing types of transport. It would grow in such areas as Northern Territory/Northern Queensland. There could even be a rôle in stock transport in the present threatening drought in S.E. Australia. It is submitted that the proposed air transport force would form a very adequate base for such development.

Conclusions

From this brief and simplified survey of the problem the following salient facts emerge, many of which will repay further investigation by more specialised and technical intelligences:—

- (a) Air transport is of peculiar importance to Australia in peace and war, because of her almost unique demographic and strategic problems.
- (b) The Australian transport system as a whole is inadequate for our needs in both peace and war.
- (c) The AMF and the RAAF are neglecting the practical application of airportability which is vital to Australian defence.
- (d) There is considerable coincidence between the type of air transport needed for the development of Australia and for the support of the AMF in war.
- (e) The air transport forces of the RAAF and civil aviation are inadequate to meet the essential requirements of peace development and of military operations.
- (f) The basic needs of air transport for civilian development and military air lift could be met by two main types of aircraft:
 - (i) A medium assault transport based on the Beverley and Avitruc.
 - (ii) A light transport based on the Caribou/Twin Pionair, although there is not complete compatibility in all respects.
- (g) The Australian aircraft industry is capable of producing the required aircraft and is in need of orders.
- (h) There is an Australian requirement for the design and production of an assault transport type of aircraft which would be independent of major airfield construction, and therefore less vulnerable to nuclear attack, and more flexible in operation.
- (i) The Commonwealth should found a force of 30 medium assault and 50 light transport aircraft, and ensure their operation for peace development and war operations.
- (j) Air Transport is veritably Australia's destiny!

BRITAIN'S NEW AIR STRATEGY

FROM MANNED AIRCRAFT TO GUIDED MISSILES

Air Chief Marshal Sir Philip Joubert,
who was Deputy Chief of Britain's Air Staff during World War II

BRITAIN is the first country to remould its defensive strategy into a pattern which takes account of the missile, both guided and ballistic, as the newest and probably the most powerful weapon of war. While conventional arms have still a part to play in protecting the United Kingdom and its allies, and will continue to do so in the foreseeable future, Britain's Ministry of Defence is undoubtedly right to look forward to a time when these new weapons will have been perfected and will, by right of their effectiveness, take their place in the armoury of our defence.

This forward look involves taking measures now, in anticipation of what is to come. These measures must involve certain reductions in conventional arms that are now out of date, so that money and manpower can be devoted to the missile programme. In substitution, it is necessary to increase the hitting

power of our remaining army formations by providing them with atomic/rocket weapons such as "Corporal" and "Matador."

Importance of the V Bomber

So that these formations can cover a wider field, they must be made mobile, and our central reserve must be able to move at very short notice and by air to any threatened point. This involves a material increase in the capabilities of the Air Transport Command of Britain's Royal Air Force, for which no fewer than 13 Britannias have been ordered. The addition of these speedy aircraft to the existing Comet IIs in the Command will vastly improve its ability to support the V bombers.

For the present, and for some years to come, Britain's V bomber force must provide the deterrent to aggression on a major scale. This force is growing rapidly in numbers, and new types are coming

into use. When long-range missiles are perfected they will not necessarily completely replace the bombers but will take their place with them as part of our striking force. Somewhat sooner, the shorter ranged variety will begin to form part of our local air defence, but here again I feel that they will not replace completely either the light bomber or the manned fighter of the present epoch.

Finally, it is perfectly clear that today the air-to-air guided weapon is with us, and that our future fighters and bombers will be equipped with them and not with cannon or machine-guns.

For the next ten years we are likely to see the military power of the great nations developing along the lines of increasing use of missiles of all types, perhaps to the ultimate exclusion of manned vehicles. But at present our plans must make provision for both possibilities, and in my view by far the most likely development in the Royal Air Force is one of the parallel use of both the present and the future weapons.

Taking first the defensive ground-to-air missile. This weapon needs an elaborate emplacement and is therefore not mobile. Its range is limited, and in the case of a town such as Chicago, bounded on one flank by a large area of water, its utility is confined to the landward defences. Defence over the water will still have to be the role of manned fighters.

Manned Fighters Still Needed

In addition, British technicians have devised a bomb that can over-fly the defensive hedge of rockets.

Other nations may be able to copy it. The bomber carrying this new weapon need never come within range of the ground-to-air missile. It can only be attacked by a manned fighter, probably equipped with its own guided missile, and possessing all the flexibility in operation that is inherent in its endurance and the intelligence of its crew

These are two indications of the continuing need of manned fighter aircraft, at least for the period envisaged in Britain's Defence White Paper, and explain the intention to continue the development and production of the P supersonic fighter. There are a number of others as well, but these two should suffice.

As regards the long-range guided and ballistic missiles, I put the period of development up to the point where they can be used operationally at from five to ten years, more probably the latter figure. During this time we shall have to rely on the well-tried manned bomber for our offensive/defence.

This weapon has two considerable advantages over the missile. Firstly, it can bring back a reconnaissance report relating to the success or failure of its mission. Secondly, if the crew has been wrongly briefed as to its target, a correction can be made in time and the flight will not be wasted.

No Television Reports Yet

The missile's target has to be predicted on the basis of calculations that may well be faulty. Surveys of partly developed countries, such as Russia, are notoriously inaccurate. Even if the target is hit it

will be necessary for a reconnaissance aircraft to be sent to ascertain the extent of the damage. Many years hence it may be possible to despatch a satellite capable of sending back a television picture of the damage—but we are not there yet.

Thus, so far as can be foreseen, there will always be a place for the manned bomber/reconnaissance aircraft. If, by reason of changes in political geography, our present overseas bases are denied to us, these aircraft will have to be of

very long range or capable of being refuelled in the air. Our V bombers are of this type.

Thus the beginnings of the rocket age do not foreshadow any immediate or drastic changes in Britain's air strategy. There is a "new look" to it, but the change of emphasis from the manned aircraft to the unmanned missile will be a slow process, and should be a relatively painless and, indeed, an interesting and agreeable one.

COMPETITION FOR AUTHORS

The Board of Review has awarded first place and the prize of £5 for the best original article published in the August issue to "The Philippines — Australia's Northern Friend," by Alejandro C. Sicat, Associate Editor of the Philippines Armed Forces Monthly.

SAFETY LIES FORWARD

A paper read by General Maxwell D. Taylor, Chief of Staff,
United States Army, at the Annual Meeting of the Association
of the US Army, October, 1956

PERHAPS the most pressing problem which the Army faces today is to assess the impact of atomic-bearing missiles and projectiles on the nature of the land battle, and then to effect a proper adjustment of organization, techniques, equipment and weapons. There is a simultaneous need to evaluate the continuing requirement for so-called conventional weapons. There has been much talk about the impossibility, mostly from the point of view of expense, of maintaining one set of "old-fashioned" forces to fight non-atomic wars and another set of ultra-modern forces to fight atomic wars. I do not interpret the problem in these terms. It is possible, indeed essential, to inject into a single set of forces an either-or capability, an ability to use atomic weapons as the situation requires and as proper authority determines, if the Army is to be able to discharge its role in future warfare. This duality—the built-in capability to use atomic and non-atomic weapons in any combination—is not a straddling of the issue but, rather,

a basic necessity for Army forces. There will never again be a war involving the major powers without the use or the threat of use of atomic weapons. Until they are used, the threat will hang over every engagement, and will impose a requirement for constant readiness for an atomic surprise. A sure way to encourage an enemy to use atomic weapons would be to confront him with a force unprepared for atomic action.

The atomic weapon, coupled with the modern missile, permits the massing of proportionate forces to deliver that massed fire. This is a new aspect of ground warfare. The Army which adapts itself first to it and develops some relative advantages from it will prevail in modern battle.

On the other hand, Army forces must not be completely dependent on atomic weapons. There are many conceivable situations when it may be to our own interest to establish restrictions on the use of these destructive weapons. It is a suggestive thought that in the re-

sistance to aggression we are likely to find ourselves in a friendly country where we have come in response to an appeal for help. We will have every reason to wish to cause minimum destruction to accomplish our military ends. Hence, the indispensable either-or capability.

In developing future Army forces adaptable to the atomic battlefield, we are impressed with the need to accomplish four things:

First, we must increase our ability to locate atomic targets on the battlefield.

Second, we must increase our ability to deliver atomic fires.

Third, we must reduce our susceptibility to detection by the enemy.

Fourth, we must increase our ability to exploit our own firepower.

Let us discuss each of these problems in some detail.

Long-range Target Acquisition

I stated that we must develop and hold a relative advantage in the field of so-called target acquisition. Without this advantage, relative superiority in atomic weapons has little meaning. Past difficulties in locating targets for conventional weapons have been compounded in the case of the vastly more efficient atomic weapons. The expense of these new weapons, their great destructiveness, and their potential hazard to our own forces are potent reasons against their promiscuous employment. Furthermore, the range of missiles far exceeds the range of

current artillery and adds to the acquisition-observation difficulty.

Thus, long-range target acquisition is technologically one of the most complex of the major scientific problems confronting the Army. Within the limits of available funds, research and development effort is being accelerated in the fields of radar, infra-red, acoustics, photography, and general electronics. We foresee the possibility of obtaining effective location devices which will vastly extend the Army's present observation capabilities. At the same time, we are asking the Air Force to reinforce its efforts to help us find all targets which fall within range of our improved Army weapons. This is the field in which the Air Force can provide in the future the most useful form of close support.

It will probably always be difficult to discover targets among the forces of an alert and well-trained enemy. The efforts of technology will never suffice alone; they must be supplemented by tactics designed to cause the enemy to create remunerative targets. It may be not too much to say that the purpose of land manoeuvre tends to become that of finding or forming suitable enemy atomic targets, then of exploiting the effect of atomic fire. Thus it is that the atomic weapons and the forces which they support are completely interdependent. Atomic weapons in themselves are inconclusive. In the final analysis, sizable ground forces must be used if the enemy, his people, and his land are to be brought under control. Atomic weapons to be effective must be used in conjunction with land

operations. This fact is basic to the organization of modern armies and is in direct contradiction to the mistaken concept that atomic weapons can somehow replace ground forces, whereas in actuality they only support them.

Diversified Delivery of Low-yield Atomic Warheads

Not only must we improve our ability to discover targets, but also we must hold and increase our current advantage in relative abilities to deliver atomic fires. The continued development of a wide range of low-yield tactical atomic weapons and diversified delivery means is essential. The tactical missile family is already reducing the Army's requirement for close-combat air-support. This trend will continue. Its pace will be determined largely by the rate of progress in target acquisition techniques.

The ability to locate, occupy and support constantly shifting missile sites in remote mountain, jungle or forest areas requires an extremely flexible supporting organization. The Army possesses sufficient land transport, sufficiently mobile supply, ordnance and medical echelons to support mobile or remotely dispersed missile units over large land distances.

The Army's Engineer organization is well equipped to perform the necessary protective construction work at missile sites, as well as the maintenance of routes to those sites. Perhaps most important, the Engineers possess the capability for basic location survey on which the accuracy and, therefore,

the ultimate usefulness of the missile so largely depends.

In order to command and control widely dispersed missile units, a requirement for mobile and highly reliable electronic communications is apparent. The kind of communications required is precisely that which the Army has already developed to a high degree of efficiency for the support of its fast-moving battle groups.

Protection of Our Own Missile Sites

It is likely that under certain conditions missile sites may be subjected to either guerrilla or airborne attack. The requirement for locating launching sites in remote areas, where cover, concealment and deception will be facilitated, will expose these sites to partisan interference. Therefore, some form of ground protection must be provided locally. The Army obviously is ready to provide ground protection at weapons sites. There will also be a requirement for anti-aircraft protection, probably by mobile surface-to-air missile units. The Army has a point defence capability in its mobile surface-to-air missiles which can be coupled with the surface-to-surface missile units for protection against air attack. Lastly, the overall security of the missile units depends on the ability of the Army forces to hold the general area in which the missile forces operate. The accomplishment of this is a fundamental Army capability.

Paralleling the increase in its atomic capacity, the Army must aggressively seek ways and means of reducing its susceptibility to detec-

tion by an enemy who may possess the atomic means to destroy any important element of our force which he is able to find.

Modern armies, with their elaborate equipment, are difficult to conceal, as are their logistic supporting echelons in the rear. In this respect they are at a significant disadvantage with relatively primitive forces such as those we fought in Korea. Such forces have inherent characteristics which significantly reduce their susceptibility to detection. They have a protective coloration which results from their lesser dependence upon elaborate and massive supporting elements, the austerity of their logistical support and their innate cunning and patience. These characteristics permit maximum utilization of the advantage offered by jungles and mountains in areas where peripheral wars would most likely break out, and thus enhance in such places the difficulties of target acquisition.

"Safety Lies Forward"—Technologically as Well as Tactically

Lacking these natural assets and unwilling to decrease susceptibility to detection by going primitive as it were, we are faced with a great challenge to our ingenuity to control our own tendency to present lucrative atomic targets. Rejecting retrogression as a means to safety, we must seek solution in the principle that "safety lies forward," technologically as well as tactically. The improvement of cross-country mobility holds forth the best prospects of reducing the susceptibility to enemy detection of Army combat forces. This mobility may eventually be attained largely by

low-flying air vehicles. The susceptibility to detection of our logistic bases is a primary problem which deserves our unremitting effort to reduce by any and all means. Austerity is essential, but austerity alone is not enough. Aerial transport, nuclear engines, solid fuel—these are the directions in which we must go. The ability to disperse and hide, coupled with the ability to converge and fight, requires mobility of a kind we have only begun to appreciate. Too often in the past the mobility we sought as protection against atomic fires, simply increased the number of vehicles and amount of equipment in the battle zone, and by so doing created for the enemy the potential targets we seek to avoid.

Full Exploitation Requires Tactical and Logistic Mobility

A final consideration related to the compelling necessity to reduce our vulnerability to atomic fire is its need to exploit rapidly the effects of our own fire. Increased tactical mobility and increased mechanization of the logistics system are two devices already mentioned which contribute to this end. Rapidity of offensive reaction must stem not only from an increased mobility and streamlined command echelon, but also from the ability of small battle groups to operate independently for long periods over great distances, coupled with an ability to live dispersed and to concentrate rapidly to fight.

Thus, the modern Army must show progress in the four critical areas I mentioned. It must have an organic target acquisition capability, organically highly mobile to

exploit its own destructive fire-power. We do not today have all the ideal equipment for such an Army. We have made substantial progress, however, and we do know what we want and our research effort is directed toward our objectives.

I would like to stress that nothing we have discovered or nothing that we expect to discover will reduce the need for brave men to fight our battles under conditions of hazard and hardship. New weapons and machines will serve our soldiers without replacing them. The atomic weapon is an impressive newcomer to the battlefield; however, it possesses few independent

virtues. The effectiveness of atomic fires depends upon the continuing ability of the combat forces to influence the action to the extent required to shield the atomic fire units, hold vital areas, force the occurrence of lucrative atomic targets, and exploit the effects of atomic fires. If conventional forces are unable to perform these essential military tasks, then the battle will be lost regardless of the number of atomic support units involved. The atomic weapon, the ballistic missile, and all the panoply of military weaponry are means for applying power to be integrated into but not substituted for your modern Army.

Like smells that originate in the kitchen and work their way by degrees to the best bedroom, the new revelations of war ascended slowly from floor to floor of the hierarchy. They did arrive in the end. By the third year of the war the infantry schools at the base were teaching drafts from home to use the bayonet as troops in the line had taught themselves to use it in the second. The frowning down of the tanks can hardly have lasted a year. The Stokes mortar was not blackballed for good. It was not for all time, but only for what seemed to them like an age, that our troops had to keep off the well-found enemy bomber with bombs that they made of old jam tins, wire, a little guncotton, a little time fuse, and some bits of sharp stone, old iron, or anything hard that was lying about, with earth to fill in; the higher powers did the thing well in the end; they came down handsomely at last; in the next life the Mills bomb alone should be good for at least a night out once a year on an iceberg for some War Office brave who would not see it killed in the cradle.

—C. E. Montague in "Disenchantment," 1922.

BOOK REVIEW

MANUAL OF MILITARY LAW.
Her Majesty's Stationery Office,
London.

OLD soldiers may shudder, but never again will a charge be laid of conduct to the prejudice of good order and military discipline under Sec. 40 of the Army Act. For in the renumbering of sections in the new Army Act 1955 this most famous of all sections becomes Sec. 69. The old offence sections 4-40 are now numbered 24-69.

Incautious comment on this change brought forward a demand for a review of the new Manual of Military Law, English Edition, from a superior authority, *hinc illae lacrimae*.

The Manual of Military Law Part 1 1956 Edition follows the same scheme as the Manual of Military Law Part 1 1950 Edition, but differs substantially from the Australian Edition of the Manual of Military Law.

Several chapters in the Australian Edition are omitted from Part 1 of 742 pages, and are included in Part II.

Part I is the working handbook for the Army.

Section 1 of the book deals with general matters. Chapter 1 Introductory shows the layout of the book, and should be read by all.

Chapter II is an absolute MUST. All COs should study it with care. In simple language it sets out clearly step by step the arrest and trial of a soldier.

Paragraphs 18-21 are an admirable lesson on how to conduct an orderly room. These paragraphs might well be read out aloud by COs to their OsC with profit to both.

Incidentally, there has often been argument whether evidence at an orderly room can be taken on oath when the accused does not demand it. This is settled by an extract from paragraph 19.

"If the accused does not demand that the evidence be given on oath, the Company Commander may direct that the evidence is to be given on oath. The accused may make an unsworn statement."

Chapter III, Court Martial, covers the whole routine of a Court Martial. There are 18 sub-headings from (i) Description of Court Martial and how Convened, (ii) Jurisdiction, (iii) Constitution—up to

(xviii) Execution and Duration of Sentences.

The use of these sub-headings will be invaluable to officers sitting as members of Courts Martial.

Chapter IV, Evidence, follows the previous editions.

Chapter V, Criminal Responsibility, will be new to readers of the Australian Edition. It covers such topics as guilty mind (*mens rea*)—incapacity of infants and lunatics, exemption through privilege of necessity and superior orders (there is but a short paragraph on the unfortunate soldier who gets an order he thinks to be illegal), degrees of responsibility, etc.

Chapter VI on Civil Offences has an innovation in that after discussion on each offence there follow some specimen charge sheets. This is undoubtedly preferable to the old system of having a collection of various charge sheets at the end of the book.

The conclusion of the chapter is a list of offences (specifying which are *felonies*, *disdemeanours* and statutory offences), special findings and punishments.

Section II is the Army Act 1955 annotated in detail. It, too, has specimen charge sheets immediately after the notes on the Offence Section 24-69. This will be found very convenient for those laying charges.

There is a comparative table with the old Army Act, and at p. 204 a list showing the arrangement of sections. As has been so often stressed in lectures, a glance at this will show the scope of the Act and facilitate reference.

Section 37 (Desertion) and Section 38 (Absence without leave)

have extensive and useful footnotes. These being the most prevalent offences in all armies, these footnotes should be read by all officers.

Section 147 is a new section, and entitles the Army Council or an officer authorized by them to order a soldier "called a person responsible" to pay compensation for any loss or damage to public or service property occasioned by his wrongful act or negligence.

As the footnote points out, this deduction may be ordered even if the Army Council did not think the person responsible was guilty of an offence so long as they thought it was a civil wrong or that he was negligent in the performance of his duty and such negligence occasioned the loss.

This is a wrong principle to adopt and should never have been included in the Act. A soldier can never leave his employment like a civilian, and should therefore never lose a penny of his pay nor a moment of his liberty until he has been first convicted by a competent Court of an offence. Under this section a soldier could be ordered to repay £10,000 damage in his first year of 10 years' service. This would mean for the next nine years of his life he would have to work for nothing, although he had never committed an offence.

I have hotly debated this principle with the cheerful DALs (who appears to be mainly responsible for this admirable work), and will continue to attack him on it.

For a first lance I shall point out that the question whether a person has committed a civil wrong or not is determined in civilian life by a

Court after a proper trial. Why should this be denied to a soldier?

For a second lance I shall charge the Army Council of coming to its decision to take money from a soldier (a) in private, (b) without seeing any witnesses, (c) without administering oaths, (d) without hearing the defence, (e) without rules of procedure, (f) without the safety of cross-examination, (g) without giving its reasons, and (h) without any appeal.

For a third lance I shall refer him to Megarry *Miscellany at Law*, page 235, quoting *Eve J. in Law v. Chartered Institute of Patent Agents 1919 2 Ch. 276 at 293.*

"A late Lord Justice—one of great learning and wide experience—Lord Justice Farwell—once stated that he could not trust the whole bench of bishops to do justice under such conditions. With a respect for the episcopate as profound as that of the Lord Justice I entirely adopt his language. I share to the full his distrust of justice administered by a tribunal sitting in private unassisted and untrammelled by the salutary rules regulating procedure and the admission of evidence obtaining in these courts, uncontrolled by the invigorating and corrective criticism provoked and stimulated by publicity, and finally wrapping up its findings in a secret communication to the department which appointed it."

I have dealt with this matter at some length, but this type of tribunal sitting in secret is becoming common in civilian life, and I would hope to keep it out of the Army.

To return to our *Manual of Military Law*, the Rules of Procedure also commence with a comparative

table and are in the familiar form. These are followed by the Board of Inquiry (Army) Rules 1956, Regimental Inquiry Regulations 1956, and Certificates of Arrest and Surrender of Deserters and Absentees (Army) Regulations 1956, which are only of comparative interest to Australians.

Section IV deals with Appeals from Courts Martial, and sets out the Court Martial (Appeals) Act 1951 and Rules with annotation which may be of use in construing the Australian Court Martial Appeals Act, should this Act ever come into operation.

The book finishes with remarks on relations between the Military, Naval and Air Forces, Suspension and Reconsideration of Sentences, and Affidavits and Statutory Declarations.

The Index appears very full, and the whole book is well printed and has the stamp of clarity and conciseness.

Commanding Officers with experience of serving overseas under the Army Act reading this book will probably yearn to return to the power of being able to award punishment up to 28 days' detention instead of the inadequate powers they possess under the Australian system. Their present powers are farcical, and NS trainees go AWL with cynical amusement at the paucity of the punishment capable of being awarded by their CO. All COs could use the book for reference with profit.

I propose to write DALS a personal letter of appreciation for the *Manual of Military Law Part I 1956 Edition.*

In conclusion, a word of warning might be appropriate. The first two pages of the book contain space for noting no less than fifty sets of amendments. The grim forebodings to which these give rise were quickly justified. Already two sets of amendments have been issued, containing in all a further eighteen pages. Perhaps some comfort may be derived from the inference that only another forty-eight sets are contemplated before the next edition is due.

—Colonel J. F. MANT, ED (RL).
