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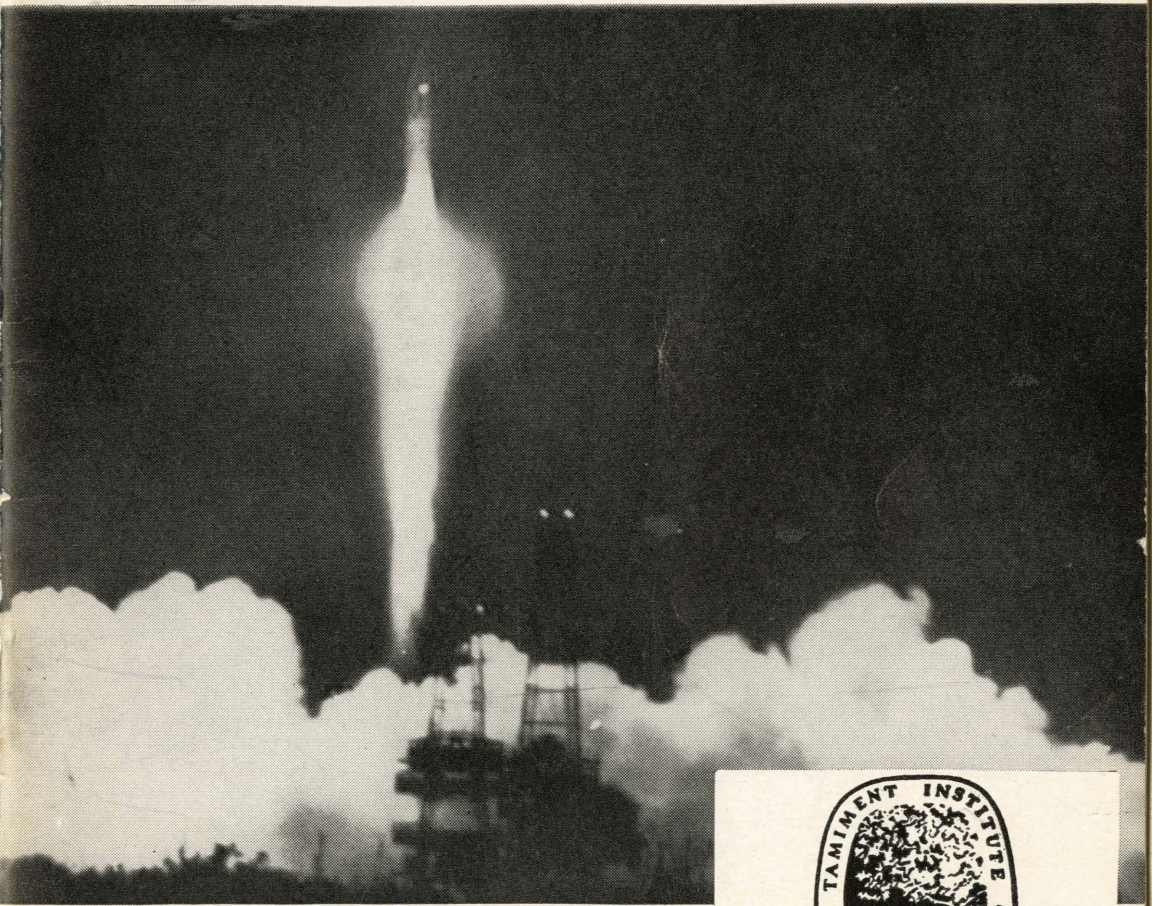
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By **KLAUS KNORR**

The CRISIS **in U.S. DEFENSE**



**A TAMIMENT INSTITUTE
PUBLIC SERVICE PAMPHLET**



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This special section was sponsored for publication in THE NEW LEADER by the Tamiment Institute; it was published simultaneously as Memorandum No. 14 in the series of the Center of International Studies, Princeton University. Professor Knorr acknowledges his indebtedness to Professors Frederick S. Dunn and Bernard Cohen for their helpful comments on the manuscript.

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THE CRISIS IN U. S. DEFENSE

By Klaus Knorr



Introduction

EVEN before the sputniks began to whiz around the earth, the American people had good cause to ask whether their defense effort was sufficient for reasonable safety. Year after year, the Russians had been surprising the West with the speed at which they improved their military technology. The Soviet Union developed fission and fusion bombs, and modern fighters and bombing planes, more rapidly than had been anticipated. In 1957, the Russians suddenly moved ahead of the United States in the successful testing of ballistic missiles and, of course, in the fielding of earth satellites. These were not isolated scientific and technological achievements. The Russians are at least as advanced as the United States in the construction of cyclotrons and electronic computers, and they lead in the development of giant jet airliners. While they seem to lag far behind in durable consumers' goods, they appear to be doing exceedingly well with projects on which they concentrate.

Until the sputniks, Washington had responded to Soviet technological advances by reassuring the country that, as before, the United States held a decisive military edge over the USSR. During the summer of 1957, at the very time when the Government had learned of the successful testing of an Intercontinental Ballistic Missile (ICBM) in Soviet Russia, the Department of Defense launched a frantic effort to reduce the rate of military spending and to pare the manpower of the Armed Services. This ruthless exercise in retrenchment was avowedly undertaken for economic reasons. Insistent demands for reducing the Federal budget to permit a cut in Federal taxes, a campaign to diminish inflationary pressures, and the firm reluctance to permit Federal expenditures even temporarily to pierce the statutory ceiling of \$275 billion on the national debt—all these provided the motive power behind the economy drive. When Moscow announced the successful launching of an ICBM, our leaders observed that it would take the Russians several years before the experimental design would be mass-produced as an operational weapon. It occurred to few commentators, at first, to ask the obvious question: If the Russians have beaten us in the race to produce an experimental model, are they not also likely to beat us in the production of operational ICBM's?

This complacent mood, which allowed repeated danger signals to be played down, was caught poignantly in a *New Yorker* cartoon showing a middle-aged, well-to-do lady remarking to her spouse: "Well, this has been a good week for everybody. The Russians got the ICBM and we got the Edsel." In view

of gathering evidence of Soviet arms proficiency, it should not have required the sputniks to disturb this mood. But it did take the earth satellite to shatter it. The sputniks could not be denied or ignored. They shocked the American public, and through it, the nation's leadership which, as before, was at first disposed to counter any alarmist sentiments with soothing reassurances. At last, in the middle of November, Washington admitted officially that the United States was lagging two or three years behind the Soviet Union in the missiles field.

Shooting the first earth satellite into its orbit was more than a splendid scientific and technical achievement. What dismayed many Western experts was not so much that the Russians were first than that the weight of the Russian "moons" was many times greater, and their orbit farther out in space, than those of the projected American satellite. These facts have several meanings. The sputniks confirmed that the USSR had developed rocket engines of more powerful thrust, and better electronic guidance systems, than had the United States—and this is of immediate importance in long-range missile development. More important, they dispelled a persistent illusion about Western superiority in science and engineering, and forced the West to discard an obsolete image of Soviet capability. Along with other evidence, the Soviet earth satellites discredit the belief that the vast manpower resources of the Communist world can be balanced by the technological superiority of the West.

Even though the overall Russian performance in all scientific fields, military and civilian, is still appreciably behind the American, the gap is closing and the Soviet Union is sparing no effort to close it in areas important to military power. It is on the traditional belief in Soviet backwardness that much of the defense planning in the West has been based, and that many countries placed their hope in the ability of the United States to protect the free nations. The apparent Soviet capture of the technological initiative seemed to reveal to some neutral as well as allied nations that their security was founded on illusion.

While the anxieties generated in the United States by the Soviet moons are far from groundless, this reactive mood is, unfortunately, focusing on American missile progress to the virtual exclusion of other components of our military posture. Indeed, there is a grave danger that increased expenditures on missiles will be offset, in some part at least, by further reduction of this country's ability to conduct limited wars. What is urgently needed at this time is not a frantic imitative response on the part of the United States, but a searching reappraisal of the entire defense effort. Five basic questions—inter-related but separable—should lend focus to this reappraisal:

- What is the world military situation which the United States must meet by its own military stature?
- What kind of military posture, and what kind of grand strategy, are required by this situation?
- What are the costs of an adequate defense effort, and how much of a burden can the American economy stand?
- Is the American defense effort handicapped—not only by an insufficiency

of resources but also by the inefficiency with which the allocated resources are actually employed?

• Finally, how much priority does the American public want to give the provisions for national security?

In taking up these questions, the following discussion is necessarily selective. It focuses on what are perceived to be some of the major issues confronting the American defense effort, and it ignores such important problems as the NATO relationship, international arms control, and the American position in waging the political, economic and diplomatic struggle known as the Cold War.

1. *The Military Situation*

Soviet Hostility: The starting point of any analysis of the world military situation is the implacable hostility of the Soviet Union to the liberal, democratic West. The Russian rulers continue to affirm their belief that the Communist system will eventually engulf the world, that this expansion is part of an inexorable historical process, and that it is their mission to abet and exploit the forces of revolution. This does not mean necessarily that they expect to conquer in war. Thus far, the record of Soviet Russia has been mostly one of military caution. The Kremlin may hope that the military power at its command will neutralize that of the West, and prefer to expand the sway of Communist rule piecemeal and chiefly through diplomacy, propaganda, subversion and—in the economically underdeveloped world especially—through economic help and the attraction of the Soviet model for rapid industrialization.

The West, however, has no assurance that the USSR will stick to “peaceful” but highly competitive coexistence. The Soviet record also shows that Moscow is far from averse to using military force, or the threat of military action, whenever doing so seems to involve little risk to its own security. During the Suez crisis of 1956; again in response to the American policy of sending atomic weapons to the NATO countries; and, finally, as part of Moscow’s stand in favor of Syrian “independence” in the fall of 1957, the USSR uttered sharp threats of atomic and rocket retaliation. It is precisely in order to deny the Soviet bloc the opportunity for military blackmail and conquest that the West must build up sufficient counter-force.

We need not assume that Soviet hostility and imperialism are forever inevitable. Like any other society, Soviet Russia is subject to change. But dependable change in Soviet behavior will be slow in coming, and short-run changes must be discounted. Mere protestations of peaceful intentions are likely to express no more than a tactical maneuver. Mere changes in the personalities of the leaders will mean little as long as the present system remains essentially intact. Nor can much store be set on any sudden crisis of leadership, for internal weakness may lead to a sharpening rather than an abatement of external aggressiveness. Dependable change in Soviet foreign policy can result only from profound changes in Soviet institutions and attitudes, and such changes take time to mature. Even if we perceive present trends indicat-

ing such basic change, we must assume for the time being that these trends are tenuous, subject to abrupt reversal, and of uncertain consummation. Much as we hope for such changes, we must assume, to be on the safe side in so momentous a matter, that intense hostility to the West is still central to Soviet motivations and may continue to be for a long time.

From the military point of view, the United States and the Soviet Union dwarf all other countries in military power. At present, only the United States can check the thermonuclear air power of the USSR. Nor does any country along the long periphery of the Sino-Soviet bloc possess conventional forces strong enough to resist for long a determined Soviet-mounted offensive. If the Soviet Union, whether acting directly or through proxy, is to be stopped from conquering outlying areas by local aggression, the non-Communist world must organize sufficient counter-force; and it has become increasingly clear that only the United States can be effective as the organizer and has resources sizable enough for operating militarily over far distances.

Soviet Strength: If the United States needs military power to protect its own territories as well as forestall a development condemning it to live ever more precariously in a shrinking island within a spreading Communist world, its military effort must obviously be related to Soviet military capabilities (primarily Russia's but secondarily, and over time increasingly, those of the entire Sino-Soviet bloc) for attacking, or threatening to attack, the United States and other critical areas in the non-Communist world. What kinds of forces are required, and how powerful should these forces be? Since, in both respects, American needs are governed largely by the structure and scale of the Soviet military effort, it is important to notice the wealth of resources—manpower, economic, scientific and administrative—which the Soviet Union is now devoting to the buildup of its military power and is likely to devote to it in the future.

Indisputably, the Soviet leaders give a high and firm priority to military effort, and the totalitarian system of government puts them in a position to impose this priority on Soviet society. Their successive plans for industrialization, showing a major emphasis on heavy industry, have always been directed in large part to providing the industrial underpinning for military strength. Although Russia's Gross National Product is at present only somewhat over a third of the American GNP, the Soviet Union is believed to spend a larger proportion of it—perhaps half again as large—on defense than does the United States. While the Soviet defense budget may be less in absolute amount than the American, Russia gets a great deal more military worth out of each defense dollar than the United States. She spends far less on pay, subsistence and safety of military personnel; at the expense of consumer goods industries, she employs her most productive resources—the best workers, managers and scientists, and the best equipped factories—in the defense sector of the economy; and she gives that sector overriding priority in the distribution of scarce materials. Hence, with a far smaller national income, the real resources allotted to defense by the USSR may fall little short of the American allocation.

In 1957, the GNP of the USSR was growing at an estimated rate of about 7 per cent a year, compared with somewhat less than 4 per cent in the United

States. It is probable that the Soviet rate of economic growth will slow down somewhat in the future, as it has in recent years, and it is possible that the Kremlin will find it politically expedient to do appreciably more for the Soviet consumer than it has done in the past. The resulting pressures would reduce the ease with which further resources can be released for use in the military sector. On the other hand, unless the Soviet rate of economic growth slows down substantially and soon, and unless consumers can make their demands a great deal more effective politically than they have so far, the USSR may divert a persistently increasing volume of resources to the military sector, and thus intensify the pressure exerted on the United States and its allies. As long as Russia's rate of economic growth remains higher than the American, she can maintain roughly the present proportions in the allocation of income to defense, investment and consumption and thus expand military expenditures while at the same time diverting more to her consumers.

Since the military race may be to the technologically swift, it is worth stressing three factors which may enable the Soviet Union to excel in this area of endeavor:

First, the Communist leaders are fully aware that we are living in a scientific age. They are firmly dedicated to exploring the endless scientific frontier, and they are sparing no effort to multiply the numbers of their scientists and engineers, and to improve their training. There is an impressive array of evidence according to which this Soviet effort has in recent years surpassed that of the United States.

Second—to refer once more to the wisdom of the *New Yorker*—while American brains and talent are diverted largely to the development and merchandising of Edsels, and the entire range of consumers' goods and services, the Russians put the best of their comparable resources to work on ICBM's, sputniks and the basic sciences that feed technological advance. With the balance of military power in the long run resting in large part on the balance of scientific and technological capacity, this Soviet emphasis on science and engineering may again entail increasing military pressure on the West. Though the *technological* base of the United States still exceeds the Russian, our *scientific* base is becoming weaker than theirs.

Finally, in the efficient use of resources allocated to the military sector, Soviet Russia enjoys the advantage accruing to the potential aggressor (provided it is clear to her, as it is to us, that she in fact occupies that role and the United States does not). Since calculated aggression is unacceptable in the United States, the Russians are able to exploit the benefit of their initiative and enforce on the United States the far less efficient course of preparing for a wider range of eventualities. Whether they will actually be able to do so depends, of course, on many contingencies, including the counter measures of the West.

Weapons Technology: Technologically, the world military situation is dominated by thermonuclear bombs and the various means for their delivery. This development has crucially changed the military problem from what it was before and during the two world wars. The advent of these weapons systems has several important implications:

- There is the new and awesome dimension of destructiveness: It takes only a single hydrogen bomb in the lower megaton range to equal the total destructive power of all bombs dropped on all belligerents during World War II. Such a bomb releases about a thousand times more destructive power than the one dropped on Hiroshima.

- For purposes of all-out nuclear war, these new weapons systems have given the offensive a tremendous advantage over defense. At present, any known means of defense against nuclear-bomb carriers promise so low a rate of attrition that the aggressor can easily offset them by somewhat increasing his offensive capability. Better and reasonably cheap means of defense may be developed in the future but are not now in sight. While prospective losses to life and property could be cut by a considerable margin through dispersal and, especially, the hardening of targets by means of shelters, feasible measures along these lines cannot avert catastrophic destruction through heat, blast and radiation.

- The speed and range of modern bomb carriers have vastly reduced the protective functions of time and space. The decisive blows in total war will fall within a matter of days or weeks. Defense through deterrence, therefore, must rest entirely on mobilized forces ready for instant retaliation.

- Finally, scientific and technological development in the weapons field is now taking place with a speed unequalled heretofore. This makes the military sector more voracious of highly skilled personnel and other scarce resources essential to research and development. It speeds up the rate at which new arms become obsolescent, thus increasing the military demand for industrial resources in general. And it also makes military planning more difficult and costly than in the past. In the first place, such planning must now provide adequate defenses at different points in time—with the weapons of 1958 probably no longer efficient in 1961, with those projected for 1961 possibly no longer efficient by 1964, and with a lead-time of several years before new weapons move from the drawing board or laboratory into serial production and operational use. In the second place, the competitive technological scramble has increased the factor of uncertainty. The weapons which a country plans to have available a few years hence must not only be better than the ones now in use; they must also be better, equal to, or an effective counter to the arms which a prospective enemy may have available at that future time. While it is difficult enough an intelligence task to ascertain and evaluate the weapons now in the hands of prospective opponents, it is obviously harder to speculate on the quantity of enemy weapons and their performance in the future.

Types of War: In addition to uncertainty in arms technology, there is the further, related uncertainty about the types of warfare likely to occur in the future. There is general agreement that a massive and prolonged war of attrition fought with “conventional” weapons is highly improbable today; this kind of war implies war objectives of so high a priority (such as invasion and occupation) that the belligerents, if pressed hard by their opponents, could not be expected to forego the use of more effective weapons in their arsenals. The unlikelihood of all-out thermonuclear war depends chiefly on

the balance of mutual terror and on the capacity of nations to avoid the accidental precipitation of this type of war.

At present, most experts assume that—now and in the foreseeable future—both the United States and the Soviet Union are able to inflict so high a degree of nuclear destruction on the other that neither country will deliberately initiate unlimited war. It cannot be taken for granted, however, that this parity of deterrent power will necessarily endure. Neither Russia nor the United States will dare to fall behind by a margin which would keep the probable losses of the aggressor within the range of acceptability. But there is no assurance that such an upset in the balance of effective terror will not occur.

The danger that all-out war will be started by the irrational action of a madman is probably small. The knowledge of what thermonuclear retaliation will do to one's own country has a chastening effect not only on individuals but also on societies. (This should give societies a far stronger interest, than in the past, in keeping madmen from the controls.) Nevertheless, there is a danger of thermonuclear war breaking out inadvertently. Thus, a limited war may gradually degenerate into a total contest; or a nation may precipitate an all-out attack for fear that its opponent is about to do so; or, at a time of grave crisis, a false alarm may set off the retaliatory mechanism. The capacity to prevent the accidental outbreak of total war rests in each nation on strength of motivation, which may be supplied by the fear of being itself subjected to unacceptable devastation; on the vulnerability of its means for retaliation, for this will affect the fear of absorbing the first blow; on administrative competence, *e.g.*, effective arrangements for making military decisions; and on technological competence, *e.g.*, the ability to sift false from true alarms.

The most difficult problems are posed by the possibility of limited wars—ranging all the way from guerrilla activities and minor police actions fought with pre-atomic weapons, to fairly large and prolonged wars waged with atomic and/or pre-nuclear arms, but stopping short of the strategic bombing of the thermonuclear powers themselves. Clearly, such limits on the use of weapons can be effective only as long as war aims are limited; for instance, as long as war aims do not encompass the decisive defeat and occupation of either side. Beyond this proposition, the problem of limited war has given rise to lively controversy. According to one school of thought, anything more than a brief and small encounter in a peripheral area of conflict is likely to end up in total war. No doubt, it is reasonable to assume that the larger and more prolonged the limited war, the greater danger of total war. Yet the magnitude of the risk would seem to be primarily a function of the mutual balance of terror. If each party to limited war faces unacceptable losses in total war, the limits are likely to stick. There is also a school of thought according to which limited wars fought with tactical atomic weapons are likely to progress to the unlimited stage because of *technical* difficulties in setting and imposing the limits. Again, the presence of the risk must be conceded. But it also seems that the danger is in inverse proportion to the fear of both sides of becoming involved in unlimited hostilities. In either event, the inherent risk of an accidental breach of the limits originally

set to a conflict depends chiefly on the circumspection with which the major belligerents control their behavior and communicate this restraint to their opponents.

Even this very summary discussion reveals that, in many respects, the present military situation differs radically from what nations faced in previous periods. The overwhelming impression is that we are face to face with uncertainty. There is technological uncertainty; there is uncertainty about the shape of future wars, and about the limits that can be imposed on them; there is uncertainty about how nations will react to the opportunity presented by a sudden, though temporary, technological superiority or, on the other hand, to the danger presented by a sudden, even though temporary, technological inferiority; and there is uncertainty about how nations will react to nuclear threats to themselves or to their allies. Unquestionably, the military planner faces a task of exacting difficulty as well as frightful consequence.

2. The American Response

American Ascendancy: The main trend in American defense planning since 1945 has been a progressive cutback, interrupted only during the Korean War, in the country's "conventional" (*i.e.*, pre-atomic) forces and a growing concentration on strategic airpower. This policy was defended on the grounds (1) that the new nuclear weapons reduced the need for sheer masses of military manpower—a component of strength in which the West was considered unable to match the Soviet bloc, and (2) that economic reasons demanded selective concentration on the essential elements of military strength.

The policy, and the military doctrine in which it is rooted, looked persuasive as long as this country possessed a monopoly or vast superiority in nuclear bombs. Even during this period of U.S. technological and military ascendancy, however, it was doubtful whether official doctrine and policy made sufficient allowance for limited-war situations in which it would have been morally difficult and politically unwise to rely on nuclear arms. These and other doubts became far more pronounced as the decisive American superiority in arms technology faded.

By 1957, the United States was reforming a considerable proportion of its surface forces to fight limited nuclear war, but this shift did not suspend the trend toward diminishing military manpower. In order to keep defense expenditures from rising above the \$38 billion-a-year limit, Defense Secretary Charles E. Wilson ordered a reduction of 100,000 men by the end of the current fiscal year and referred to further plans for reducing the total strength of the armed forces to 2.5 million men by July 1959. The cuts fell largely on the U.S. Army. And, while Army and Navy units were being converted to atomic war, it was inevitable that American forces for conventional warfare shrank persistently. In the Navy, the last battleship was put in mothballs, and the Sixth Fleet, though possessing a respectable nuclear punch, had few planes and few men for engaging in conventional combat. At the same time, two

infantry divisions were to be inactivated by the Army and one of its armored divisions cut to a combat command, to leave a total of 15 divisions by the fall of 1957.

Thermonuclear Standoff: Whether this cutback in conventional strength, and the establishment of a small capability for fighting limited nuclear wars, give the United States a sufficient choice of military responses was bound to become a major question once the Russians were believed to be able, or nearly able, to threaten the United States with thermonuclear devastation.

Whether a thermonuclear stand-off has now been reached may remain controversial. Modern weapons systems are so complex, future war conditions so uncertain, and intangible factors such as morale so unpredictable that it is most difficult to measure the present balance of thermonuclear airpower with any degree of precision. In all probability, United States airpower is today still superior to the Russian; and, despite Soviet advances in missiles, this condition may last another few years. But this relatively small and probably diminishing margin is not a consequential factor in the effective balance—and not just because the Kremlin is generally conceded the advantage of striking the first blow and thus the chance of destroying part of this country's ability to retaliate. The decisive point is that, exact equality of power or not, the USSR has now or will soon have the capability of crippling the United States, inflicting tens of millions of civilian casualties and destroying or paralyzing the bulk and heart of its economy. By the same token, if missile superiority will give the USSR a considerable edge over the retaliatory power of the United States within two or three years, this is not a matter of major consequence as long as this country retains the capacity, even after enduring a surprise attack, to cause unacceptable damage to the Russians.

On either assumption, however, the United States must now review its grand strategy for defense, for it can no longer rest on a decisive superiority in thermonuclear airpower. In the new circumstances, limited war may well be the most likely form of future warfare. If a new strategy is called for, it will take several years before a revised policy is formulated and then translated into the hardware and trained personnel of a readapted defense establishment. In fact, the question of a grand strategy for the defense of the West must be considered an open one. No one choice is obviously right, and this very dilemma of uncertainty must, to a considerable extent, determine the American response.

Unquestionably, the United States must keep its strategic air arm capable of threatening the Soviet Union with unacceptable losses and thereby deterring the Kremlin from risking unlimited war. In view of recent Soviet progress, this alone is no mean undertaking. Success will not be guaranteed by clinging to the image of one's own scientific and technical leadership. The United States will have to speed up the development of its offensive delivery system and do much more than has thus far been necessary to protect the Strategic Air Command from a surprise attack. At the same time, it might be a gross error for the United States to put an *overwhelming* emphasis on overcoming the Russian missile lead or to gamble on the single attempt to recover decisive superiority over Soviet Russia in thermonuclear striking power. The

question now is: How safe is it for this country to rely so largely on this single military instrument for protecting the various U.S. interests that may be at stake in a great variety of military and political circumstances?

Massive Retaliation: According to the doctrine of massive retaliation announced by Secretary of State John Foster Dulles in January 1954, the United States was then ready to threaten the use of its nuclear airpower whenever Communist local aggression could not be thrown back by the forces of the attacked country (reinforced possibly by small contingents from the rest of the free world). So far as this policy contemplated the possible strategic bombing of the Soviet Union, it rested on the decisive American superiority over the USSR in thermonuclear airpower. But as the Russians approach the United States in this power, this policy becomes more dangerous and possibly ineffective. It becomes more dangerous because the chances of unlimited war coming about inadvertently will inevitably increase with the number of times the United States is willing to move to the brink of all-out conflict. It becomes possibly ineffective because, facing the prospect of severe mutilation by the Soviet Air Force, the United States will become reluctant to risk its population and industrial centers in the face of minor aggressions, a change of attitude which would hardly surprise or escape the Kremlin.

Under these circumstances, the Soviet Union may well feel tempted to create and exploit limited-war situations to a greater extent than in the past—unless the non-Communist countries find a means for deterring local wars other than by a threat of U.S. action which, while inflicting disastrous punishment on the aggressor, accepts roughly the same punishment for the United States itself. Secretary Dulles addressed himself to this problem in October 1957, in an article entitled “Challenge and Response in United States Policy” in *Foreign Affairs*. He seemed to propose that, while in the past the threat of massive retaliation was needed to deter Soviet conventional aggression, in the future this deterrence will result from the West’s new capacity in tactical nuclear weapons. However, Soviet Russia will hardly content herself with strategic airpower and conventional forces. She has already begun to equip herself for tactical nuclear war; and, though she may at present lag behind the United States in the development of a broad range of tactical nuclear weapons, it is surely an illusion to believe that she may not catch up in substantial measure.

In that event, the United States cannot be sure of its ability to use tactical nuclear arms to deter local aggression or stop it in its tracks should it occur. Nor can it be sure, in that event, that local engagements can be kept small and short, unless the local balance of tactical nuclear power favors the defenders. As has been the case with conventional forces for some time, this leaves open the question of whether the West is able to muster sufficient counter-force. For the United States, this means, among other things, whether it will have enough mobile forces in readiness to support local forces in any area whose defense is critical from the U.S. viewpoint.

As it becomes widely realized that the USSR has not only acquired the ability to bring thermonuclear devastation to the American homeland but is also maintaining large forces for both limited nuclear war *and* conventional

war—forces in most important areas superior to what the West has now—the temptation may be great to scurry back to the single stance of massive retaliation. There are some cogent arguments for such a course. It is certainly cheaper to rely on one weapons system; it seems a rational decision to those who believe that anything beyond the smallest brushfire will unleash strategic airpower in any case; and it seems the only practicable strategy to those who despair of the West's ability to meet the Soviet bloc on any level of warfare requiring large masses of military manpower.

However, the alleged inability of the West to organize sufficient opposition on the level of limited war does not result from a paucity of resources but rather from a lack of will to commit an adequate proportion of its resource wealth to this purpose. Nor should it be taken for granted that the democratic countries are incapable of meeting this challenge once the need for doing so is made sufficiently clear. Most important, a reliance on massive retaliation for deterring all Communist aggression beyond the smallest border skirmishes means that the United States would then gamble the survival of the West either on Soviet fear of retaliation or on Soviet forbearance. No matter what particular form Soviet aggression might take, the United States would command only one form of response. In every instance, regardless of locale and other circumstances, the United States would be forced to choose between walking to the brink of total war or leaving Soviet aggression unopposed. Can the West count on always having the nerve to offer to the Soviet Union the threat of mutual destruction? And can we always count on the Soviet Union to let itself be deterred? Surely, too, the policy of massive retaliation is likely to increase the risk of all-out war being precipitated inadvertently.

Limited War Capability?: What are the alternatives to the strategy of the single stance? Must the United States settle on such rigidity in its response? Assuming that an effective balance of mutual terror will deter resort to strategic nuclear forces by both the United States and the Soviet Union, it is far from easy to indicate the *kinds* of defense which the United States should command. (It is assumed that the capacity to deter aggression requires the ability to beat back various types of aggression.)

If we distinguish between different levels of war—ranging from conflicts waged with conventional, pre-nuclear weapons at one extreme, to all-out thermonuclear hostilities at the other—we might locate in between several types of limited warfare fought with tactical nuclear arms. These might be scaled in terms of more or less rigorous limitations on weapons and targets. Such differentiation has been made familiar by the school of thought that advocates “graduated deterrence.” For example, if there were another Korean War, one could in matters of target selection distinguish between using nuclear weapons in Korea only and using them also for destroying enemy airfields across the Yalu River.

However, whether this graduation of tactical nuclear war can be made to stick in practice—that is, whether operations on any lower level can be kept from ascending to the highest level of tactical atomic conflict—is a highly controversial question. There is no chance of making the distinction stick unless both sides to the conflict can (1) formally or tacitly agree on restricting

their operations to a given level—an agreement involving questions of mutual interest, detailed operational definition and effective communication—and (2) have sufficient administrative control over the activities of their armed services. Should graduated deterrence prove impractical, we are reduced to three levels: conventional, tactical nuclear and unlimited war. Waiving the problem of progressive differentiation, our discussion must proceed on the assumption of only three levels, although it could be readily adapted to a situation of more choices.

In order to deter aggression, and to defeat it should deterrence fail, the ideal defense inventory would seem to include sufficient force at the level of limited war least disadvantageous to the United States and, above this preferred level, enough force to deter the opponent from raising the ante. The opponent will accept defeat (that is, limited defeat) at the level preferred by us only if he must expect greater losses from a relaxation of the prevailing limits on warfare. But the ability to threaten the enemy with unacceptable losses on a higher level is not enough unless the United States and its allies are strong enough to avert defeat on the preferred level.

If aggression cannot be deterred altogether, which level of restricted war should be preferred by the United States? (We are assuming that unlimited nuclear war is not the preferred level of conflict, unless this option becomes the only alternative to surrender because the defensive position of the West becomes hopeless on all lower levels.)

It is possible but far from certain (despite Secretary Dulles's assurance) that tactical nuclear war is for the United States the preferred level for deterring or fighting limited engagements, even if the possibly conflicting interests of this country's allies could be disregarded. Indeed, to this and related questions, there probably cannot be a clearcut answer. If one expects the Russians to equip themselves likewise with the technological means for conducting tactical nuclear operations, and does not automatically assume U.S. technological superiority in this respect, the United States and some of its allies must possess a substantial capacity of this kind in order to deter or repel Sino-Soviet aggression. They may need little less military manpower than conventional surface forces require. The numerical strength of the tactical nuclear force would depend on the size of the Soviet forces, the relative mobility of the Soviet and American forces, the troops required for supply and for otherwise servicing large masses of complicated gear, and—very importantly—the replacements for casualties that might be very large. And, even if there should be a saving in sheer numbers of military manpower, the total effort of providing a tactical nuclear capability of sufficient size may equal or even exceed that of providing a conventional capacity. That is because the real resources to be expended on both training and equipment per man for tactical nuclear conflict will probably surpass such expenditures per head for a conventional fighting force.

Aside from the probability that a tactical nuclear capacity is not a cheap substitute for a conventional one, the level of war for which it is required may or may not put the United States at a greater advantage *vis-à-vis* the Soviet bloc than the level of conflict waged with pre-nuclear weapons. Where

the comparative advantage lies for the United States hinges on a variety of conditions that are hard to predict. Much depends, for instance, on the actual limits observed in a tactical nuclear conflict. The United States might face an intractable problem of supply should the Russians be free to attack American supply lines on land and sea. To give another example, the United States might suffer serious political losses abroad if it were to counter conventional aggression, especially in peripheral areas, by a nuclear riposte. Furthermore, since the limits on conventional war are far easier to define (and hence to enforce) than the limits on tactical nuclear operations, conventional engagements are less likely to end up inadvertently in unlimited hostilities. This may well be a crucial consideration.

Whatever the level of limited war preferred by the United States, the need to impose this preference on a prospective enemy raises further problems of great complexity. Of course, no need for enforcement would arise if both the United States and the USSR have a strong interest in limiting warfare to the same level—a condition which is likely to prevail (at least for some time) as far as progression to total war is concerned. Yet suppose the interests of the two powers diverge: If tactical nuclear war is its preferred level, the United States must wield a sufficient deterrent on the strategic nuclear level to keep the adversary from raising the ante to unlimited war should he face defeat on the level preferred by the United States. On the other hand, if conventional war were the level preferred by this country, any enemy option for the tactical atomic level would have to be denied either by an American ability to cause the enemy more unacceptable losses on the higher level, or—going one step further—by throwing in the threat of unlimited war. To use the latter enforcer would be much cheaper in terms of defense outlays but the risk of increasing the likelihood of all-out war would have to be set against this saving.

The Allies: The entire problem is somewhat different for the countries in Western Europe and elsewhere along the periphery of the Sino-Soviet bloc, for they are potential theaters of hostilities in the event of limited war. Few, if any, of them can hope by themselves to stop Soviet military aggression on any level. If they cannot expect help from outside, their best strategy, if they do not prefer surrender, is to rely on strategic nuclear power—provided they can supply themselves with the necessary weapons system, protect it from elimination by surprise attack, and hence threaten the aggressor with enough destruction to make local aggression unprofitable.

Only the countries allied with the United States have a wider range of choices. They need not, of course, maintain a strategic nuclear deterrent of their own as long as the American deterrent is sure to be used for their protection—a condition that may not always prevail as a matter of course. Assuming that it does prevail, they might not, at first sight, prefer preparations for tactical nuclear war. For if aggression is not forestalled, and they are likely to become the theater of operations, they may expect an unacceptable degree of devastation. Based on this expectation, they might prefer either the threat of massive retaliation by the United States against the Soviet Union in the event of Soviet aggression against their own territories—the chance that New York and Detroit are obliterated rather than Paris and Essen

—or a level of limited warfare, *e.g.*, conventional hostilities, likely to be least harmful to themselves. Exercising the first option would allow such countries to slight their own defense effort, and spare them a high degree of devastation; however, should the American threat fail to deter the Communists, they would also have to accept the prospect of conquest by the Soviets.

A further grand strategy open to allies of the United States is to fall in with this country if it chooses to establish a solid capability for waging limited nuclear war—and this despite the prospect of crippling destruction should such a war actually be fought on their own territories. The purpose of such a choice would be not to wage such a war but to deter it (as well as any serious aggression on the lower level) by maintaining a capacity clearly superior in all critical areas to Soviet means for waging limited conflicts. The drawback of this strategy is a large outlay of resources by the United States and its allies.

Our allies' choice depends in large part on American policy and hence can, to some extent, be influenced by the United States. Conversely, whatever strategy these countries choose—and the choice may vary for different countries, and for each country over time—it cannot help but complicate the task of American defense planning, for the United States can hardly ignore the preferences of its chief allies.

Two conclusions stand out in this matter of searching for a sound defense policy:

1. American planning has almost certainly gone too far in cutting ready surface forces, particularly in the Army, for deterring and fighting limited war. In addition to strong pressures for a lower defense budget, this neglect resulted from a time lag in recognizing and adjusting to the U.S. loss of unchallenged supremacy in thermonuclear airpower.

2. Laying down a sound strategy for defense in this world of rapid change is a task of inordinate difficulty. The crucial problem is uncertainty in so many respects. This would present no trouble if the United States were able to afford unlimited resources for defense and hence could prepare itself for all contingencies. Yet the need to select and discriminate cannot be avoided; and there can be little confidence that any simple strategy adopted will guarantee the security of this country. Whatever direction is chosen for the effort of the United States, there will be an inescapable chance that it is riding for a fall.

Air defense?: The ability to fight abroad is by no means the only capability puzzling American planners. In some degree, home defenses against thermonuclear air attack must supplement the maintenance of offensive forces. The United States has made considerable efforts to improve its active air defense, with the protection of SAC bases receiving a high priority; but extremely little has been done in civil defense, passive defense (dispersal and hardening of civilian targets), and in preparing the country for recovery from large-scale destruction.* Even though an unlimited thermonuclear assault on

*For a searching inquiry into the problem see *Civil Defense for National Survival*, Hearings before a Subcommittee of the Committee on Government Operations, House of Representatives, 84th Congress, second Session, Parts 1-7, (Washington), 1956.

the United States must be expected to mutilate this country beyond recognition and confront the surviving population with unprecedented problems of survival and recuperation, the neglect of air defense can be defended on these grounds:

- There are now no known technological means for defense against modern planes and missiles good enough to afford anywhere near the high degree of protection feasible against air attack during the Second World War.

- Any high degree of passive defense, through the dispersal or hardening of civilian targets, is not only extremely costly but would also require intolerable changes in the peacetime life of the population.

- In view of the technical superiority of offensive airpower over all known defenses, it is relatively easy and cheap for a prospective enemy to counter costly defensive measures by a marginal increase in his offensive capability.

- Under these circumstances, there is a good deal to be said for allocating additional resources, if still needed, to the American capacity for retaliation—present and future—and thereby deter any prospective aggressor from launching an all-out attack.

This justification for the present policy depends largely on the precise use this country expects to make of its strategic air arm. The decision to slight efforts on active and passive defense is more likely to be sound if the United States expect to use SAC strictly for deterring unlimited aggression by the USSR. It is less likely to be sound if the United States freely employs the threat of its nuclear airpower to deter Soviet Russia from limited aggression and walks to the brink of war with considerable frequency. Such resort to SAC's punch must to some extent increase the probability of unlimited war breaking out, if only inadvertently. A strategy of relying so heavily on strategic airpower may warrant a relatively smaller outlay on tactical surface forces designed for limited war, but it hardly justifies the neglect of air defense at the same time. Since to maintain strategic airpower is a must, there is some logic in seeing air defense and a limited-war capacity as competing claimants on defense resources; but the neglect of both, as the United States has done in recent years, is hard to justify.

There are further reasons for favoring an investment in a degree of air defense which is marginal yet a great deal more substantial than has been attempted so far. A hardening of civilian targets by means of a shelter program for reducing casualties *at the periphery* of bomb bursts, where heat and blast have spent most of their force, would involve expenditures of perhaps \$10 to \$40 billion over a number of years, depending on the degree of marginal protection desired. Such a program could not prevent huge casualties, but it might save as much as one-third or more of the population otherwise doomed to death or injury. An effort in this direction would be a partial insurance against the risk, however small it is hoped to be, that unlimited war will break out. It would also assure the Kremlin that the United States means business and will not flinch in the face of Russian threats.

The question of how large a proportion of defense resources should be channelled into research and development for active air defense likewise cannot be considered settled in favor of a relatively modest effort. At the present

time, the development of an efficient anti-missile as well as an efficient anti-aircraft system still faces forbidding scientific and technological obstacles. Yet research and development, if backed by a greater effort, may reveal better prospects in the future. And, obviously, if either the United States or Soviet Russia succeeded in developing an efficient defense system, it would confer, at least for a time, an inestimable strategic advantage for the successful country.

If the American response to the Soviet military challenge is wanting in depth (chiefly because the use of science and technology for defense is insufficient) and in breadth (chiefly because we do not maintain a wide enough choice of military reactions), why has there been this lack? The answer is necessarily complex; only some of its strands can be identified and examined here. For some purposes perhaps, for example in the pursuit of pure science, the United States faces an absolute shortage of resources. Viewing the entire demand for resources, however, this is hardly a major factor, for this country is much wealthier than Russia in virtually every line. The main problem, then is knowing what to do (the question of a realistic defense doctrine, admittedly perplexing as we have attempted to show); diverting enough of this total wealth of resources to the defense sector; and employing these resources with reasonable efficiency.

3. The Economic Load

NEXT TO the question of doctrine, the problem of allocations must be given first rank. The problem is chiefly one of attitudes. One of these, complacency, has been underscored in recent months. Of the others, the most important ones are the fear that an excessive allocation of resources to defense will undermine the American economy; the gnawing doubt that the military manage the resources allotted to them with circumspection and efficiency; and finally, the public's reluctance to pay the tab. All of these attitudes come seriously into play because defense costs in the modern age are inordinately high.

The High Costs of Defense: Compared with previous periods of formal peace, recent American defense costs have been fluctuating at a very high level. From 1930 to 1939, the United States spent a little over 1 per cent of its GNP on national security. Even in 1939, with war imminent, the share was a little under 1.5 per cent. In contrast, the outlay on national security (including atomic energy and foreign military aid) averaged 6.5 per cent during the four years from 1947 to 1950 and, following the extraordinary expenditures in the Korean War, nearly 11 per cent during the three years from 1954 to 1956. Several factors account for this "quantum jump":

- The sharp rise in defense costs reflects in large part Soviet pressure and the bipolar structure of world power which places the main Western military burden on the United States. Old mainstays, such as the Royal Navy, no longer serve to protect the security of this country.
- Effective security now rests overwhelmingly on *ready* strength rather

than, as previously, on a war potential to be mobilized in time of emergency. Whether it is for deterring all-out nuclear attack or repelling local aggression, the need is for forces instantly on hand.

- Technological progress has greatly raised the skill and hardware needs of the armed forces. Planes are much more expensive to produce and maintain, crews are much more expensive to train than formerly, etc.

- The extraordinary quickening in the pace of weapons development not only demands increasingly large resources for research and development; it also subjects expensive equipment, and the skill to use it, to an unprecedented rate of obsolescence. To render existing weapons obsolete is the very purpose of research and development, and the need for doing so is compelling if Soviet technological competition is to be met.

These four conditions alone have greatly revolutionized the nature of the U.S. security problem. Yet there is still a fifth factor: the inescapable need to cope with uncertainty. As was pointed out above, we are facing an unusual technological uncertainty and, as will be observed below, we are under the pressure of economic uncertainty. Above all, there is strategic uncertainty—that is, there is no obvious answer to the question of which kind of military posture the United States should favor. It is therefore desperately difficult to decide how much would best be spent on SAC, on limited-war capacity and of what kind, or on civilian and active air defense. Since there is a limit on the total effort the United States is able and willing to make, the need to choose is unavoidable: and any decision entails a large risk of being proven faulty in the future. For example, future events might present us with frightful consequences if the United States put defense resources overwhelmingly into the strategic airforce and starved its ability to cope with limited wars by limited means; if an overemphasis on civilian air defense came to impair SAC, the consequences might be similarly calamitous. And even if the planners could be sure of having made the right forecast in 1957, which they can hardly be, they cannot hope that the forecast will stand in 1958 or 1959, for the conditions of strength and weakness in the Soviet orbit and in the rest of the world, and our knowledge of them, are incessantly in flux. Rather, efficiency demands a constant readiness to revise all choices in response to changing circumstances.

The Problem of Choice: Nor does this kind of uncertainty confound the planner only on the level of general strategy. The problem of prediction and choice appears on numerous levels throughout the military establishment. How much more should we spend on increasing the mobility of our ground forces? How many more aircraft carriers should we construct, and how many submarines capable of launching rockets? How many fighter and bombing planes of any particular type should we manufacture at any one time, when improved types are already on the drawing boards? What proportion of defense funds should be allocated to research; how much to basic research, how much to the improvement of weapons likely to be out-of-date three or four years hence? How much should we spend on developing guided and ballistic missiles as against manned aircraft? How much should be spent on radar screens as against shelters, how much on stockpiles? The list of choices

seems endless. But all the choices must be exercised and, once made, questioned and, if necessary, revised.

This formidable problem of prediction and choice has three weighty implications. *First*, many of the choices to be made may have awful consequences. They may seriously, or even disastrously, affect the future survival of the nation. If we shift too large a proportion of our funds from plane and missile production to research and development, we may find ourselves at a critical moment without enough serviceable planes and missiles—for prototypes cannot fight. If we economize excessively on research and development, including basic research, we may discover some day that the Soviet Union has achieved a technological breakthrough in a weapons system which renders our forces-in-being obsolete. If we are parsimonious about active and civilian air defense, and the Big Deterrent fails to deter, we may have caused the death of millions who might have survived. If we economize excessively on mobile surface and tactical air forces (including a large airlift capacity) that are able to do combat in local wars, we may see Communist rule expand by means of military blackmail or local warfare because we hesitate to unleash an unlimited nuclear war of mutual destruction.

Second, and to repeat, many of the fateful decisions are extremely hard to make. Even our information on current Soviet intentions and capabilities is subject to marked error and, at the high level of policy-making, even firm estimates may be disregarded because their implications go against the grain of established assumptions and preferences. But the allocative choices on defense that we make today concern future contingencies, and our ability to predict future situations in all relevant aspects is utterly inadequate. It is certainly less dependable than officials of the Defense Department admit when they justify important decisions. To the best-informed persons, it must inevitably appear that the probability of error is substantial and inescapable. In short, the risk of making wrong decisions is as great as the consequences of wrong decisions are perilous.

Third, throughout the military establishment, there is a lengthy lead time, often stretching over several years, before decisions on the development of weapons or new fighting units yield new military power ready for immediate use. It took six years for the B-52 to move from the drawingboard stage to that of combat readiness. It takes a long time from the initial decision to man, equip and train an airborne division. This lengthy cycle in the production of modern military forces means that many errors in deciding on the size, composition and equipment of the armed services cannot be quickly retrieved.

The triple fact that, in making important decisions on defense, errors are likely to be frequent, fateful and (except over long time-spans) irrevocable clearly underscores the need for prudence. The price of gambling is formidable. We dare not assume that we can predict with any degree of precision the size and kind of military defense which will give us any desired degree of security in 1959 or 1964, and proceed to cut out forces, weapons and research programs which, according to the prediction, we will not need. In the face of uncertainty, prudence requires that we insure against error, that we

cover several bets on decisions involving high stakes. This is what the Soviet rulers are doing. Recognizing that protracted land wars of attrition are unlikely and that tactical nuclear weapons will not permit the massing of huge land armies, they are reducing the number of their divisions. But, unlike the United States, they are maintaining a highly versatile and balanced military establishments, giving them a considerable choice of military initiatives and responses at any time and in any area of strategic interest.

Like all insurance, insurance against errors in preparing for our defense costs money. With any given degree of intelligence in making decisions, the less we spend on defense, the harder become our choices and the more we must rely on our frail capacity to foresee the shape of the future. There is general agreement on the need to maintain the Big Deterrent. But the more we limit the total resources we allocate to defense, the larger a share that deterrent tends to absorb and the less is available for surface forces or civil defense. In the thoroughgoing Senate hearings on airpower in 1956, it was pointed out that the directives of the Secretary of Defense to the armed services concerning defense expenditures in fiscal years 1956 and 1957 abounded in words such as "eliminate," "reduce," "curtail," and "postpone." It must be expected that such pressure to economize will compel very risky choices on research, inventories and dozens of other things which may subsequently prove to have weakened our national security.

In conclusion, the larger the total resources we make available, the less the risk that we will find ourselves ill-prepared to safeguard our future chances of survival. Not even the United States can protect itself against all future contingencies. But cutting down to absolute "essentials" is risky in view of our limited ability to define what the absolute "essentials" are, the dangerous consequences of erroneous definitions, and the difficulty of recovering fumbles.

4. How Much Can the Economy Stand?

The Fear: With defense making *necessarily* huge claims on the nation's resources, it is not surprising that a further element of uncertainty has confounded American planning: Can the American economy stand so large a strain year after year for a presumably indefinite period? The recent disposition to cut outlays on defense was given some urgency by Congressional hostility to even a temporary breaching of the Federal debt limit, and by the determination, especially strong through the first three quarters of 1957, to reduce inflationary pressures. Yet the main economic concern has been rooted in the profound fear that too large a defense budget will undermine the health of the American economy. President Eisenhower and numerous other officials have voiced this anxiety repeatedly.

Unfortunately, there are no ready answers to the question of how large a burden of defense the economy can "stand" over a long period of time. Few of the officials concerned ever trouble themselves even to define what they mean by a "sound economy" or to explain in a meaningful way how a rise in defense expenditures by a few billion dollars would subvert the economy. Nor

is this a new impediment to rational choice. In 1948, for example, President Truman decided that the defense budget for fiscal 1950 be kept down to \$15 billion, although Defense Secretary James Forrestal and the service chiefs wanted at least \$18 billion. Though other reasons were advanced to justify this economy move, President Truman and James Webb, Director of the Bureau of the Budget, leaned heavily on the argument that a defense budget of \$15 billion was about all the economy could stand, and this argument made a strong impression on Secretary Forrestal, General Omar Bradley, and others. \$15 billion amounted then to about 5.5 per cent of the Gross National Product. In the event, after the Korean War broke out, defense expenditures rose above \$50 billion, amounting to over 14 per cent of the GNP, with results that, by any acceptable standard, failed to wreck the American economy.

Yet, in 1956, this same anxiety aroused sharp fears lest defense expenditures rise steeply in fiscal 1958 to a point which, if we expect the GNP to run to about \$430 billion, would claim 11 per cent. The obvious need is to "educate" this fear, to make it more informed by exploring the ill effects which alternative levels of defense outlays may cause to the economy. To do so is admittedly difficult. Indeed, the strong conviction with which many people anticipate debilitating effects of large defense outlays on the economy stands in striking contrast to the paucity of empirical knowledge about such effects.

In the response to any level of defense spending, one distinction must be made at the outset. There are two questions that are relevant: First, do we personally like to bear our share in the tax burden involved, even though there be no subversion of the nation's economy? And, second, even though we are not personally opposed to bearing our share in the tax burden, is it undermining the health of the economy? No doubt, some people who do not wish to have a large proportion of their incomes taxed use the "sound-economy" argument in order to make their opposition on the first score respectable. But the two responses turn on altogether different issues and may well differ regarding any proposed level of spending.

Economic Consequences of Defense: There should be general agreement on the proposition that a soundly functioning American economy exhibits the following three characteristics:

1. Major inflationary and deflationary cycles are avoided while there is reasonably full employment.

2. The present balance between private and public economic decisions is not seriously upset.

3. Most important, saving, investment and innovation keep the economy growing in productive power so that the real Gross National Product keeps rising by at least 3.5 per cent a year.

Now, the dangers that large defense budgets result in monetary instability or in a substantial spread of new Federal controls over economic life, hinge primarily on the public willingness to be taxed. The security benefits which various levels of defense expenditures can buy take the place of benefits from private or other public expenditures which could have been made instead. It is for the American electorate to weigh and compare these sets of benefits in the light of the information available to it. The ensuing choice will be recorded

through the political process. Ordinarily, this decision will touch on the functioning of the American economy under only one major circumstance, as long as full employment prevails. Wanting both to have the cake and eat it too, the public might wish to spend more on defense than it is currently willing to pay by foregoing other uses of a corresponding portion of its income. In that event, inflationary pressures may result. If prolonged and severe, these will obstruct the efficient operation of the economy and, by encouraging the use of direct governmental controls over the private use of resources, disturb the operation of the relatively free economic system.

Since the defense effort now needed is of indefinite duration, sound policy requires it to be put on a pay-as-you-go basis. It is for the Government to gauge the spending level which the public is willing to accept. Should this level fall appreciably short of what is required on military grounds, it is for the nation's leadership to explain to the public why larger outlays must not be shirked.

This leaves the problem of whether, or to what extent, a persistently large defense effort will clog the sources of growth in the American economy. Indubitably, this is a significant problem, for the defense effort rests in large part on the economy, and whatever the security burdens imposed on it, they can be borne more easily if the GNP keeps rising rapidly and with some steadiness. A \$500 billion economy gives the United States more strength on which to draw than a \$400 billion economy.

Those who fear that defense outlays at recent levels do serious harm to the economy suspect that the onerous tax load involved dulls the income incentives behind hard and productive work, enterprise and investment, and diminishes the ability as well as the willingness to save. The problem is one of the total tax burden in relation to the national income and one of the specific tax structure on the basis of which revenues are collected.

Concerning the first problem, there is thus far no empirical evidence for the fear that a defense effort absorbing between 10 and 12 per cent of the GNP will act as a perceptible drag on American economic growth. Ever since defense outlays and taxes were lifted to very high levels at the time of the Korean War, the economy has been blessed by satisfactory rates of saving, investment and innovation. Such intensive studies as have been made of persons in high-income brackets, though not entirely conclusive, have revealed a great deal of grumbling over high tax rates but, in the aggregate, only a negligible slackening of productive effort. Moreover, when taxes bear down on the receivers of middle incomes, their aggregate response has apparently been to increase effort in order to maintain fairly rigid expenditure patterns involving insurance, homes, education, vacations and durable consumers' goods.

It is, of course, conceivable that, regardless of the particular tax structure, the total tax load could be raised to a level that would impair incentives and diminish the ability to save. Nobody, however, knows at what level these harmful effects would become substantial. It is surely plausible that there is no sharp breaking point—say, a specific percentage of the national income claimed by taxes—at which these effects would become suddenly important. One would rather expect that, once generated, these effects would at first be

marginal and mild, and increase only gradually if the tax burden were raised progressively. It also seems reasonable to conclude that the total amount of taxes now collected is one which the American economy can absorb without becoming debilitated, and that a somewhat larger burden—for example, another 2 or 3 per cent of the GNP—is fairly safe. Much of the complaint about high taxes simply expresses the understandable preference of citizens to spend more of their incomes for private rather than public purposes.

Whatever the total burden of taxes, however, it is the *tax structure* which has an independent and important bearing on income incentives and on the public's capacity to save. It is generally agreed that the American tax system is antiquated and inconsistent, and understandable only in terms of the political pressures that shaped and reshaped it over time. Extremely high marginal taxes on corporate and individual incomes have encouraged practices which, affording some escape from the bite of the tax collector, lead to uneconomic uses of resources and cause serious inequities besides. It is possible that this tax structure has somewhat retarded, though not, of course, prevented American economic growth in the recent past; and since such dampening effects might become more disruptive if the total volume of taxes is increased for purposes of defense, a review of the Federal tax structure should receive a high priority. The appearance of any substantial disincentive effects could be further retarded by reducing tax rates on large incomes and tightening the sprawling system of tax exemptions. A structure of taxation designed to encourage economic growth would counteract the risk that higher levels of defense spending might subvert the American economy.

Finally, whatever the strain which a large defense effort may place on the economy, it must not be forgotten that its consequences are not all injurious. Some of the beneficial consequences are, to be sure, conditional on other circumstances, as when a high level of Federal spending sets limits to a decline in general business activities. But there are also by-products of a large defense effort which, though hard to trace and impossible to measure, are unconditional and significant. For one thing, defense-supported training of skilled manpower and investment in plant have expanded this country's capacity to produce at an accelerated pace, and not all of this expansion is in lines useful only to defense. For another, and more importantly, defense expenditures have hurried the development of atomic energy, electronic computation, aeronautics and many other products and productive techniques. No doubt, this extra spur to science and technological advance has yielded vast benefits; and these benefits are looming much larger than they did in the past because an increasing share of the defense dollar finances research and development.

To conclude, it is most improbable that defense spending in the neighborhood of the current scale, between 9 and 12 per cent of the GNP, will ruin the American economy. There is some risk, but a risk only gradually increasing, of a net damage to the forces of economic growth if taxes were raised above this range; and this risk could be minimized by adapting the tax structure to the promotion of growth. The current fear of this risk seems exaggerated and should not stand in the way of some increase in the defense

effort, provided this is clearly required on military grounds. Moreover, in the event of need, some risk to the economy's functioning must be accepted as preferable to inadequate security against external aggression. At present, the United States seems to be running a far greater and far more dangerous risk of being insufficiently prepared for defense than of undermining its economy.

5. *Managing the Defense Effort*

Two further considerations militate against making adequate provision for defense. One is the deep-seated civilian suspicion that the military are always asking for too much and that it is safe, therefore, to apply almost automatically a sizable discount to their requests. But though this suspicion should not be relinquished, it is not at all clear that it should inspire more than prudent probing. The military cannot be relied upon to ask for too much at all times. Furthermore, the organization of the Department of Defense has greatly strengthened civilian leadership and responsibility; the Bureau of the Budget plays an important part in checking budget requests; and the National Security Council offers a further opportunity for examining requests. To be sure, the effectiveness of these safeguards depends in no small measure on the personalities occupying the key positions. To reduce this particular weakness, and especially to make Congressional review more effective, there is much to be said for presenting budget requests first of all in terms of military missions—strategic airpower, capacity for limited war, civilian defense—and only secondarily in terms of the traditional breakdown by the three armed services. This would show, to a greater extent than is the case now, just what kind of military strength the proposed budget dollars are expected to buy.

Waste of Defense Dollars?: The other consideration follows from the persistent feeling among civilians that the military are wasteful with defense dollars and that a great deal more "defense worth" could be financed with available or even smaller funds if only the management of the defense effort were more efficient. To analyze the management performance of the military, to trace its ways of spending funds on numerous administrative levels and for numerous purposes, and to suggest how present practices could be improved would be a task of formidable complexity, going clearly beyond the scope of this brief survey. It would also require a body of knowledge so vast and difficult of access that few single individuals could manage it. The purpose of the following remarks is more modest: to inquire into the *nature* of the problem rather than to take up many specific instances of mismanagement and reform.

Measured by some ideal standard of performance, or even by the actual standards of efficient business corporations, the management of the defense dollar is inefficient beyond doubt. Yet these criteria are of dubious relevance; and to accept the fact that what looks like gross inefficiency by these standards is not necessarily inefficiency in a military service, is probably the most important step toward sober appraisal. For example, a military inventory of seemingly lavish supplies may, upon serious inquiry, turn out not to be lavish

in view of the uncertainty with which the military must be prepared to cope. They must be ready to act with dispatch at unforeseeable times, in unforeseeable places and under unforeseeable circumstances. A business corporation, which runs the risk of insufficient inventories, runs the risk of lesser profit. An inventory failure of the military may have serious consequences to the nation's security. In other words, the degree and range of uncertainty, and the entirely different character of the risks involved, make the concept of efficiency used in business largely inapplicable to military management.

Of course, this is not to say that military spending is actually being managed with efficiency or that, on some levels and for some purposes, sound principles of business management and accounting do not apply. But to discover the place for improved practices, and to introduce them, must surely be part of the civilian responsibility in the Department of Defense, for the training of the military is, after all, not primarily in methods of management and accounting. On the other hand, the application of better management procedures must largely remain in military hands and, to prepare them for this, would seem to call for some relaxation of the tradition which leads officer personnel to be re-assigned every three years. With the increasing technical complexity of military tasks, an extended degree of specialization among the military is inevitable; and, excepting tradition, there is no reason why a proportion of officers should not specialize in military management tasks and receive the same professional rewards enjoyed by other officers.

Cutting Fat?: In the past, the favorite method of enforcing economy on the military has been to slash appropriations "across the board" by some arbitrary figure, usually dictated by fiscal and, ultimately, political considerations. As experience has demonstrated again and again, this is by all odds the most inefficient civilian method of improving military management. In such attempts at "cutting out fat," which no doubt is there, a great deal of "muscle" is bound to be removed along with the fat. There may be some immediate gain in terms of budget dollars, but the meat-ax approach is hardly designed to make for efficiency and usually entails substantial budget increases later on when the economy drive has been revealed to jeopardize the country's security. An alternation of budget cutting and crash programs is inevitably wasteful.

The reason for the failure of this approach lies in the very fact that the military establishment lacks the administrative capacity, the internal unity, the time and the incentive to spread overall budget cuts with a fine discriminating eye so that they fall on the expenditures marginally least essential to defense. If the Office of the Secretary of Defense tried to practice such discrimination itself and prescribe in detail which expenditures were to be reduced by how much, it would become quickly apparent that the accounting and management job involved called for a huge administrative effort and, for purposes of information and enforcement, for a disruptive intervention into service practices.

The meat-ax approach has a further drawback. Repeated experience has led the military to expect economy drives from time to time and, in their adjustment to the familiar feast and famine cycle, they are naturally disposed to overstate their essential requirements so that enough "muscle" is likely to survive each campaign. Clearly, this defensive reflex acts as a major impedi-

ment to more efficient management. Furthermore, on the administrative levels at which the elimination of uneconomical practices must be carried out, there is little incentive to do so because any savings are returned to general funds. For example, an obsolete program of weapon development or a wasteful inventory practice in a particular service is much more likely to be abandoned if the released funds become available for research and development, or for inventories, in the same service or the same service unit. Although "incentive budgets" would not result in the immediate saving of defense dollars, they would improve the efficiency with which these dollars are being employed. Indeed, this suggests a further point worth highlighting. To equate inefficiency with wasting dollars means attachment to an insufficient concept of inefficiency. At a time of stupendous technological flux, sluggishness of response to new dangers and opportunities is as important a measure of inefficiency as wasting dollars. Waste of time, rather than of dollars, may be the primary weakness of the Pentagon.

Reorganizing the Military Services?: A great deal of service inefficiency is rooted in the uncertainty regarding the best grand strategy for the United States at the present time. The lack of an accepted military doctrine has fanned much of the interservice rivalry which has been causing some waste, though not uncompensated by benefits, especially in weapons research and development. If there were an agreed doctrine and, hence, an acceptable definition of military missions and roles, the heat of this rivalry would no doubt decline and the task of managing the defense dollar be eased.

Some critics propose bluntly that the present division of the defense establishment into three (or four) services has become wholly obsolete and should be done away with at once. This position has some merit, not in the sense that one monolithic service should be set up, but in the sense that the country needs a new breakdown of functions better related to the tasks of modern warfare—strategic airpower, capability for limited war, and air defense. Yet the proposed step also suggests the bull in the china shop. Aside from the fact that some interservice rivalry concerning doctrine and weapons development is productive, because it acts as a competitive spur to achievement, an abrupt abandonment of the traditional services could not help but lower officer morale, demand a formidable amount of legislative and staff work, divert attention from urgent issues of defense, and disrupt the operation of established administrative machinery. None of these costs can be afforded at a time of almost continuous external crisis. The better method, it seems, is to proceed gently and do so along functional lines, step by step. The problem is to merge certain service functions that offer the least resistance and the largest payoff, and then re-decentralize them on a new basis.

Some parts of weapons development should be favorite candidates for a partial reorganization of functions. The now crucial process of weapons development, it seems, is unduly slow, not so much because of inter-service rivalries, but because the administrative machinery within each service is too complex and cumbersome—requiring numerous committees and commands to review a new weapons idea before it comes to a final decision (often after as much as three years) on whether or not to proceed to a development project. If the

Russians continue to best us, and best us by a large margin, in the number of years it takes for a new weapon to move from the conception of a new idea to serial production, we are more likely to lose the technological race. Soundness of decision is, of course, as important as speed. Yet the swiftness with which the technological and hence the military balance of power can shift demands that the process be accelerated; and, instead of tinkering with existing machinery, it might be better to discard it and establish a new one by creating a set of commands on the basis of the types of military missions that are now relevant.

There is an alternative to this recommendation. Weapons development also appears to suffer from a lack of imagination as long as it is primarily entrusted to the military. Again, there is a reason for this which is not, as such, discreditable. Since the services must be prepared against all military eventualities at all times, they tend to cling to weapons systems which are tested and with which they are familiar; and, less creditable though still understandable, there is the reluctance, mostly subconscious, to embrace innovations that foreshadow painful readjustments of doctrine, organization and traditions. The pilot may well be disturbed by missiles which he cannot ride.

As the experience with the Office of Scientific Research and Development during World War II suggests, this situation might be corrected by handing over the initiation of radically new weapons—as distinct from marginal improvement of existing arms—to a civilian agency in the Department of Defense. But to make such an agency effective, it would have to be given not only formal authority but also an appropriate share in the defense budget so that it would not depend for funds on the armed services. A civilian agency, moreover, would be less likely to be stingy on funds for basic research. This is another deficiency that might prove fatal; for the more basic science is carried on, the greater is the chance of a fundamentally new weapons system that might, for a time at least, alter radically the existing balance of military power.

If these proposals have merit, it may prove feasible to combine them by arranging for close cooperation between the civilian agency and the new functional commands. Under the proposed scheme, however, the various combat units would, as before, belong to the traditional services for the purposes of administration, training and supply.

Defense Contracts: In the letting of development contracts with private firms, two practices are in urgent need of review. In recent years, it has taken up to two years before weapons development contracts are negotiated to the point at which the private contractor can start with the job. The insistence of the services that they begin with complete and detailed specification of all parts in a complicated new weapon system, and that they must approve of all technical specification changes subsequently proposed by the private contractor, accounts for a goodly proportion of the time lapse. The remedy would seem to lie in a method by which the military would specify only essential performance, in the development phase, and leave the contractor free to find the materials, components and techniques by which the desired performance can be achieved.

Another practice in need of reform is the cost-raising tradition of the services—again understandable in terms of their aspiration to utmost dependability of matériel—to insist on equipment performance which, though very expensive at the margin, adds only slightly to dependability or versatility in combat use. Where large expenditures add only little to military worth, they should be foregone. By avoiding such “excessive specification,” and also by abandoning the present cost-plus-fee contract—which gives the private firm too little incentive to cut costs—substantial savings might be achieved over time.

The contention is not that the above and similar remedies do not have drawbacks of their own. More detailed exploration is required before an estimate of net benefits can be made with some confidence; and, however good a proposed reform looks on paper, its administration is sure to be difficult. There are no easy answers to the problems of defense management. Yet in view of the grave issues at stake, this should not be allowed to discourage the search for better arrangements.

Whatever the specific problem, the central problem is, in any case, that sure and lasting improvement in defense management requires a fundamentally new approach. First, any move toward such improvement must begin with the political and administrative realities of the world in which the military operate. The frustrations suffered by the military at the hand of Congresses, Secretaries of Defense, and Presidents have caused the development of a set of defensive attitudes which are the most critical roadblock on the way to better management. These attitudes cannot be decreed or legislated out of the way. Rather, reforms should concentrate initially on new management techniques least likely to call these attitudes into play and, by eschewing the meat-ax approach henceforth, the country can encourage their gradual decline. Second, the search for improved techniques, adapted to the defense establishment, is far from easy. It will require patience and imaginative innovation; and, in large part at least, any initial survey should be carried out by joint teams of civilian specialists and military officers. If this view of the problem is correct, any real progress must inevitably be slow. But it would seem better to be satisfied with slow and sure progress than to insist on the technique of the sudden assault which, on the basis of the record, is highly unlikely to produce net benefits.

6. The Political Requisite

IF THE present state of the American defense effort calls for a basic review; if there is need for a clarification of overall strategy, or at least an efficient way of dealing with uncertainty; if it is time for a broad-gauged investment in scientific and technical training, for a tough-minded appreciation of what the economy can stand, and for a realistic approach to the problem of military management—there is yet one prerequisite of success ranking above all these. This is a new political momentum and vision. And whether or not this momentum and vision will come forth is, of all the uncertainties with which the

American defense effort seems to bristle, perhaps the least fathomable.

What is required is clear enough, and can be put in plain words. To do enough for defense under present conditions demands from society a huge diversion of efforts which its members, naturally enough, prefer to devote to the pursuit of private ends. It means less consumption and more work, less freedom of self-direction and more attention to a part of reality which cannot help but induce anxiety. In short, it means giving up a great deal of what is worth defending in order to improve the chances of protecting the rest. What is at issue, moreover, is not a temporary effort, to win a war or weather a single crisis, but a sustained and, seen from the imperfect vantage point of the present, an indefinite effort. And this effort must come forth without anyone being able to prove compellingly that so much, and no less, is indeed a minimum for reasonable security; hence the temptation will always be there to do less and hope for the best—a temptation, incidentally, which the Communist rulers will try to manipulate to their advantage.

There are pessimistic observers who doubt that democratic societies—and especially societies so much given to the search for personal comfort and security—are capable of rising to the challenge and bearing the strain indefinitely. These skeptics fear that the future is with the harsh regimes of the Communist Bloc. But it cannot be said that the mettle of the Western nations has as yet been tested. The general public in this country, and in the other Western countries as well, is not aware of the general nature of the military problem confronting them.

The crucial function is that of political leadership. The security of the West may come to be in sorry straits if its leaders yield to the push and pull of a public—only partly informed of and, by disposition, largely reluctant to face the external danger—and accord to defense only what thought, energy and treasure it can spare from its devotion to domestic politics. In such circumstances, Western leaders will not be permitted to demand the necessary sacrifices, and demand these on the basis of a strategy that must cope with uncertain knowledge.

The first prerequisite is for leaders of all kinds—no matter what party, interest group and ideological affiliation—to give priority to the job of coming to grips with the Communist menace in all its forms—military, political, technological and economic. And this new momentum among the leaders can only spring from a new vision which, at this time of supreme crisis, sees external danger and the various means to avert it—science, innovation, economic growth, political responsibility and moral commitment—as an integral part of life. Such a vision, the second prerequisite, will give steadiness of purpose which will do away with the risky dependence on Pearl Harbors, Koreas and sputniks for provoking purpose belatedly, with the inefficient cycle of complacency and over-reaction, and with the inability to seize the initiative instead of merely parrying the initiatives of the opponent. Only such a vision will yield a military stature in keeping with the enormity of the danger.

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