THE STRATEGIC CONSEQUENCES OF NUCLEAR PROLIFERATION

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June 1966
My responsibility in this Symposium is to examine the strategic consequences of nuclear proliferation. If we limit ourselves strictly to the strategic area—-to the possible employment of additional nuclear capabilities against military or urban targets—-one cannot avoid the conclusion that considerable exaggeration has crept into public discussion of proliferation's consequences. This observation rests, in part, upon a distinction between strategic and socio-political consequences, which some will regard as arbitrary and which in any event cannot be made precise. If we do isolate the strategic from the socio-political consequences, it is plain that the latter could be quite serious. The very countermeasures through which harmful strategic consequences can be avoided are likely to be viewed as undesirable on social or political grounds. At the very least, the spread of nuclear weapons generates fear. When publics or governments become fearful, they can act in ways which seriously reduce the amenities of living in...
society. For example, one possible result of the spread would be for societies partially to close their borders and to police incoming goods and people more carefully than at present. This might easily be associated with the decline in the tolerance of dissent within the society. In the specific case of the United States, it is sometimes felt that the idealistic flavor characterizing much of its foreign policy would tend to disappear—to the disadvantage particularly of those who live in the underdeveloped world. These are consequences which few would view without some trepidation. But these are political consequences. They do not imply a major alteration of the military balance or for that matter the physical security of most of the world's population.

For these reasons I believe that most public discussion of proliferation's strategic consequences is seriously defective. However, nothing that I say regarding the exaggerations of these strategic consequences should be construed as a criticism of the basic objectives of U.S. policy or of the desirability of preventing further nuclear spread. I am dubious whether any such policies can be completely successful. There is a danger in expecting too much as well as in being too fearful. Moreover, since I believe the effects of proliferation would be less severe than currently anticipated, I would be inclined to set a lower price on what the United States should be willing to pay to prevent proliferation than would some other members of the Panel. In particular, I would be reluctant to pay a very high price in terms of offending friendly nations merely to get paper acquiescence to a non-proliferation treaty.

Nevertheless, despite the exaggerations of public discussion, it is plain that we should bend our efforts to avoid or to limit the spread
of weapons. Proliferation adds to the problem of managing the world. It increases both the number of uncertainties and the number of variables that must be watched. One can put the menace of proliferation in another way, as has William C. Foster, the Director of ACDA: further nuclear spread would lead to a reduction of the relative influence of the United States on the world scene. This appears like a self-serving plea, and for this reason, the argument may have less initial appeal to outsiders than to Americans. Nonetheless, the argument contains a surprisingly large element of altruism. A decline in the relative influence of the United States on the world scene may be more closely associated with increased difficulty in keeping the world relatively stable and peaceful than many non-Americans might be willing to concede at first blush. In a world in which nuclear weapons were more widely held and in which the United States sought to avoid "entanglements," the gravest misfortunes would be reserved for the populations in the unstable portions of the world rather than for the favorably-situated publics of the nuclear superpowers.

I. SOME EXPRESSIONS OF CONCERN

If, then, we acknowledge that there are weighty reasons for opposing the spread, how much despair should we be prepared to feel, if our efforts at control turn out to be unsuccessful? It is on this point that prophecies of disaster appear to dominate public discussions and that public statements diverge most sharply from a sober assessment of the risks. The view that nuclear spread poses a single, overwhelming threat to the continued existence of mankind strikes me as a distortion of reality which, if taken seriously, could lead to a misallocation of
our national efforts. I suggest that the noticeable discrepancy between the paramountcy nominally attributed to the problem and the policies we stand ready to adopt indicates that the more extreme expressions of alarm are not, in fact, taken too seriously. Among leading public figures Senator Robert Kennedy has most vividly dramatized the disastrous consequences to be expected from proliferation. In a recent statement he asserted that alongside proliferation control "nothing else means anything." This is a bit of political hyperbole, the force of which would appear to be weakened by the Senator's allocation of his own energies. He himself devotes intense effort to numerous other issues, but aside from public statements has given relatively little attention to the problems of proliferation.

To move from the survival of mankind to the survival of the United States, we have heard on even higher authority that the survival of the United States is at stake—if we fail to prevent the spread of nuclear weapons. Once again, for reasons that will be extensively developed below, this statement is simply misleading. The risks to the American society—and in this respect we must distinguish sharply between the American society and societies in the third world—are very much exaggerated. The United States is in a position to reduce the risks to itself to very low levels. The United States can both adjust its policies and adopt countermeasures which reduce the damage that limited nuclear capabilities could inflict. Such countermeasures would maintain or increase the already enormous gap between U.S. military capabilities and those possessed by non-superpowers. A package of such countermeasures could sharply reduce the risks of proliferation in several respects:
(1) the ability to inflict damage on the United States would be kept low, (2) the United States, if it so desired, would remain in a position to deter attack by lesser nuclear powers against third countries, and (3) the incentives to acquire capabilities would consequently be altered—and possibly reduced toward the vanishing point. Countermeasures taken by the Soviet Union would, of course, reinforce the process.

I would argue that the ability to implement such countermeasures—to make crystal clear to all nuclear aspirants that acquisition of nuclear weapons cannot significantly alter the strategic balance—provides the best hope over time of controlling proliferation and its consequences. My co-panelist, Hedley Bull, has characterized this position as one of "high posture." He has—on this occasion as on prior ones—expressed misgivings regarding its suitability. I will not at this time argue whether the psychological repercussions of augmenting the gap between the superpowers and other states will be of the sort that Mr. Bull foresees. My point at this juncture is to indicate (a) that such countermeasures are well within the capacity of the United States, and (b) that the survival of the United States is scarcely brought into question by the further spread of limited nuclear capabilities. This last spectre is one we had best put to rest.

I cannot imagine that any American president will fail to accept some of these countermeasures. However, let us place such issues to one side. Whatever their resolution, I think it plain that, if proliferation takes place, we shall go right on living with it. We may continue to complain about it, but we shall live with it—while continuing to enjoy the benefits—if that is the appropriate term—of a rising
standard of living. The very leaders who now assert that non-proliferation is indispensable to our security will then find other subjects to dramatize.

I have been attempting to allay some of the anxieties regarding proliferation. This is necessary not simply because we should recognize that existence will continue to be quite tolerable, even if proliferation takes place. What is perhaps more important, an attitude of desperation regarding the spread of nuclear weapons is not merely inaccurate, but may also be counterproductive in terms of achieving control. By understating the difficulties of acquiring a serious nuclear capability and by exaggerating what a nuclear aspirant power may obtain through acquisition of a capability, we may strengthen the incentives for acquisition. The danger inherent in exaggerated chatter regarding the damage that additional capabilities can foster is that it revivifies the false notion of nuclear weapons as "the greater equalizer" in international conflict. Hopefully, most nations will penetrate the smokescreen and perceive the difficulties. However, some may be lured into believing that nuclear weapons do provide an answer to their security problems. Others may be encouraged in the notion that acquisition will provide an instrument of threat or blackmail which can be directed toward the rest of the world.*

To illustrate the way in which such illusions can be fostered, Senator Kennedy has misappropriated some words of his brother, the late President, to the effect that "every man, woman, and child, lives under a nuclear sword of Damocles hanging by the slenderest of threads, capable

*Fortunately, a number of those nations to which such a motive might reasonably be attributed appear to have such weak technical and industrial bases that it is doubtful whether they could develop a capability, even if so moved.
of being cut at any moment by accident or miscalculation or by madness."*

The Senator's point is that each additional nuclear capability, no matter how limited, automatically creates an additional Damoclean sword. But this suggestion is simply not true. In relation to the indicated levels of destruction, the damage potential of small nuclear forces is too limited. In assessing the damage that might result from nuclear spread, it is essential to recognize that nuclear proliferation is as much or more a quantitative problem than it is a qualitative problem. The quantitative aspects are subject to calculation, but in the public excitement over the threat of proliferation these calculations are normally ignored. Such oversight seems indispensable in generating both needless anxiety and the nuclear-weapons-as-equalizers illusion.

II. DIMENSIONS AND MEASUREMENT

Any serious attempt to assess the dimensions of the proliferation threat should begin with some calculations regarding the spectrum of strategic capabilities given varying levels of investment. Further development of the point that proliferation in certain essential respects is a quantitative problem is basic to our understanding. Proliferation is really quite unlike pregnancy, though in the intuition of many something akin to pregnancy is used as a rough analogue. It is frequently observed--usually by way of admonition--that there is no such thing as being a little bit pregnant. But this is because the results and the

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*The nuclear sword of Damocles in President Kennedy's United Nations address quite obviously referred to American and Soviet capabilities. While some poetic license seems understandable in relation to such vast destructive power, it does not seem particularly relevant in relation to the extremely modest forces that other powers could develop.
time involved in the process is pretty well defined. In size and weight full-term babies tend towards a normal distribution; the variance is not a matter of great moment. But suppose that in pregnancy there were no tendency toward a unimodal distribution of the results and that the time involved in gestation were subject to enormous variation. Suppose again that the ultimate progeny could be Lilliputians or Brobdignagians—or, for that matter, a varied assortment of misshapen dwarfs, possibly lacking essential organs, limbs, or faculties—and that the specific result depended upon not only the intake of the mother but her intelligence. This is really a more revealing analogy. It explains why being a little bit proliferated may be a meaningful concept, while being a little bit pregnant is not. In this area controlling the ultimate dimensions may be even more important than preventing conception or birth.

The range of possible nuclear capabilities is simply enormous. One must be aware of the importance of the distinctions to be drawn among capabilities—and how these distinctions relate to size and vulnerability. Consider the existing array of nuclear capabilities. The United States, which has invested most heavily, possesses a capability which is not only a solid deterrent, but which is not incredible in terms of a carefully controlled, countermilitary initial strike. The Soviet Union, which has invested less, has an impressive second-strike force, which is an effective deterrent. Britain possesses a much more limited capability, presently dependent for delivery on obsolescent aircraft, which is continuously waning in terms of influence and credibility. The French capability is even more limited in terms of damage potential against the
Soviet Union, though it promises to exploit more advanced delivery systems indigenously-produced. Finally, the Chinese capability—presently drawing the lion's share of attention—is barely past the embryonic stage. There is some question whether it should even be referred to as a capability.

The degree to which a nuclear capability is strategically exploit-able—substantially dependent on the credibility of the threat to employ—is determined by its size and sophistication and by the vulnerability of the society it is designed to protect. Strategic posture ultimately depends upon the ability to inflict and to limit damage. All these are roughly correlated with the volume of resources the society has invested or is able to invest in its capability. Happily for the wealthy and powerful, this ability is subject to considerable variance. Somebody has observed: there is no cheap substitute for money. It is doubtful whether the inexorable requirement for money is anywhere more decisive than in relation to the development of a nuclear capability. Sophisticated nuclear weapons and sophisticated delivery systems are terribly expensive. The cost of developing a capability which could seriously disturb the superpowers (as opposed to one's unarmed neighbor) is staggering.*

Let me indicate roughly what kind of sums are involved. In order to develop a convincing second-strike capability against one of the superpowers, a nation must be prepared to spend billions of dollars

*The potential of small nuclear capabilities for precipitating regional confrontations or regional destruction would remain as a major source of trouble. Its attenuation—in the case of continued great power involvement—will be treated below.
annually—and these expenditures would continue for a decade and longer. Estimates differ; five billion dollars a year may be too high and three billion dollars a year might be adequate. These sums, however, run well beyond what most nations have been prepared to spend—including some that are present members of the nuclear club. Resources will be required not only for delivery systems and compatible weapons, but also for certain supplementary capabilities whose costs are rarely reckoned. Who includes such indispensable items as reconnaissance and intelligence in the list of required outlays? But any nation contemplating a confrontation with a superpower had better learn something about the location of targets and about the location and capabilities of its opponent's air defense and missile defense systems. The upshot is that only through very heavy outlays can a nation develop more than a very minimal threat against a superpower.

To illustrate the problem, let us consider some historic cost figures. Take the matter of weapons development and stockpiling. Down to this point in time the United States has invested on the order of $8 billion in the development of nuclear weapons. On AEC operations generally, it has now appropriated close to $40 billion. These are substantial sums. How many nations are in a position to spend even 20 percent or 25 percent of these amounts? Yet, for the creation of a serious capability, requiring deliverable weapons in the megaton range, heavy investment in weapons development is unavoidable.

Though the spread of missile capabilities is now a matter of increasing concern, the problem of compatibility implies that development of advanced weapons is preliminary to deployment of an effect in missile
force. To develop a warhead for an early-generation missile with limited thrust and size (the goal of a development program or the initial goal of a program for an aspiring nuclear power), there must be heavy investment in weapons testing in order to get yield-to-weight ratios to a point where a weapon adequate for target destruction can successfully be delivered in the vehicle. Moreover, there will have to be major investment in guidance technology simply to insure that missiles will be accurate enough to place weapons near the point targeted—whether military bases or cities. In this respect, it is vital to recognize the tradeoff between weapon size and weapon accuracy. With very large yields, considerable inaccuracy may be tolerated. However, with the very low-yield weapons of the sort that can be developed with small amounts of money yet be delivered with limited-payload vehicles, the accuracy requirements become very severe. Yet, missile accuracy is neither cheap nor easy to obtain.

The implication is that no nation is going to be in a position to develop a strategic capability which is both sophisticated and cheap. In the absence of major investments or extraordinary outside assistance the only option open to most nuclear aspirants is the aerial delivery of rather crude nuclear weapons. Though such capabilities can, of course, dramatically transform a regional balance of power (if the superpowers remain aloof), the superpowers themselves will remain more or less immune to nuclear threats emanating from countries other than the principal opponent. For the foreseeable future, only the Soviet Union will be able to deliver the requisite megatonnage to threaten major devastation in the United States. Threats from other quarters may be faced down.
The superpowers therefore will remain in a position in which they can dominate any nuclear confrontation. Only a superpower—and in this connection the term applies particularly to the United States—will be able to intervene in such confrontations in third areas. If it desires to pay the costs and is willing to run the risks, other nations—including the present three minor members of the nuclear club—will continually be deterred. Not only will they be precluded from implementing nuclear threats, but in the relevant cases, their capabilities will remain vulnerable to a disarming first strike—unless they are given protection by an associated superpower. In any showdown with a superpower, a minor nuclear power relying on its own resources will simultaneously be deterred and be subject to disarming.

This asymmetrical relationship between major and lesser nuclear powers brings us back to a point raised earlier: why it may be counterproductive to talk in a panicky way about proliferation's threat to mankind-as-a-whole. If we are to dissuade others from aspiring to nuclear capabilities, what we should stress is that, if weapons spread, they are not likely to be employed in third area contexts. The penalties for proliferation would be paid, not by the United States or the Soviet Union, but by third countries.

The likelihood that the first nuclear war, if it comes, will originate in and be confined to the underdeveloped world should play a prominent role in any assessment of proliferation's consequences. The tenor of the existing discussion of proliferation has led some in the underdeveloped countries to conclude that the major powers would be the chief beneficiaries of curtailing the spread. If nuclear spread
is to be effectively opposed, it should be made crystal clear just whose security is placed at risk and whose is not.

III. COUNTERMEASURES

The problem of nuclear spread is not exhausted by the attempt at prevention. The effort to dissuade additional states from acquiring nuclear capabilities, while good in itself, is not likely to be wholly successful. Control includes much more than simple contraception. Influencing the character and consequences of whatever nuclear spread takes place should not be neglected out of disappointment with the "failure" to prevent proliferation entirely.

We should recognize that the long-run problem is how to live with the spread with minimum risk. This implies the control will require continuing effort over time; it is not an all-or-none problem to be settled in some particular time period. If we take the position that the issue is simply one of counting those nations claiming nuclear weapons status and that if this number increases we are undone, then we will fail to examine the second-stage opportunities for control. Given a policy of minimizing the number of nuclear powers, there should be additional strings to the non-proliferation bow to be employed as the number of nuclear weapons states increases. What are these additional strings? First, if new weapons programs are launched, we may hope to keep the resulting capabilities as limited as possible. (This would reduce the damage potential of any nuclear wars taking place in third areas.) Second, we can take steps to reduce the risk that these capabilities, whatever their size, will actually be employed. Moreover, any actions which sharply reduce the size or the risk of employment of
additional capabilities may also serve to weaken the motives for acquisition.

Under the heading of limiting the size of additional capabilities, the methods at our disposal are indirect ones. Recognizing the ordinary tradeoff between cost and quantity, our actions should be designed to keep the cost of strategic capabilities at a high level, thereby weakening the temptation to acquire larger capabilities. This implies no direct assistance to strategic nuclear programs of other nations—save in rare and unusual circumstances. Through rigorous strategic trade controls we may also hope to limit indirect assistance. Above all, we should make every effort to see that international assistance intended for the support of peaceful nuclear programs is not diverted to support of military programs. These are not easily achievable goals, and we ought not pitch our definition of success at too high a level. The instruments for control are imperfect. Moreover, costs by themselves cannot exclude other nations from seeking nuclear capabilities. Given the existing system of national sovereignties, the ability to influence the decisions of other states is quite limited. Nonetheless, something can be achieved. To whatever extent we can hold up costs, we can limit the size and the potential destructiveness of budding nuclear capabilities.

The second heading—reducing the risk that new capabilities will be actually employed or, if employed, limiting the potential damage—represents that aspect of living-with-proliferation-at-minimum-risk over which we ourselves have most control. There are certain hardware possibilities and other physical arrangements that can limit the potential
for damage. One obvious possibility may be to buttress the air defense capabilities of threatened states. A more controversial possibility is the deployment of new systems that will sharply reduce the damage that Nth countries could inflict on the major nuclear powers. Elsewhere in this Symposium a panel discussion has been devoted to the most dramatic current illustration of this type of possibility: the deployment of an ABM system. I would not wish my remarks to be taken as an endorsement of the ABM system, for that decision involves complex arms control, strategic, and cost-effectiveness calculations, which are beyond the scope of my responsibility. I should, however, like to stress one particular aspect that is relevant to the final decision: deployment of an ABM system or other systems that substantially reduce the damage that can be inflicted on the United States may serve to curtail the harmful consequences that could flow from proliferation. Through such damage-limiting measures, the willingness and the ability of the United States to intervene in third areas when the use of nuclear weapons is threatened is enhanced. Consequently the American ability to prevent the misuse of nuclear capabilities will be strengthened. The strongest deterrent to a lesser nuclear power's employing its capability is the possibility that a major nuclear power will enter the lists against it.

Given the existing preponderance of American power the deployment of major new systems may not be essential to achieve this result. However certain types of developments do appear desirable in order to exploit the discrepancy between major and lesser nuclear powers for the purpose of driving home the ill-advisedness of lesser powers initiating the use of nuclear weapons. For example, in a world of many nuclear powers in which anonymity is at least a hypothetical possibility, we
should invest considerable effort in developing methods for "fingerprinting" nuclear weapons and parallel systems through which we may in a crisis quickly ascribe responsibility for any detonation that occurs. Then, if we wish to offer protection to threatened nations, we could see to it that punishment for any such irresponsible act would be swift and condign.

An approach of this sort, which relies on superpower preponderance to withstand the potentially baleful effects of proliferation, is not one that is universally and automatically appealing. Hedley Bull has characterized this approach as "high posture" and has contrasted it with one that he prefers: the "low posture" in which the differences between the greater and lesser powers are muted. Let me therefore say a few words in defense of the so-called high posture.

First, phrases like high posture and low posture have a certain allure, but the question must be raised whether they accurately describe the underlying realities or the true alternatives. The gap in military nuclear power between the superpowers and other nations is enormous and will continue to be so. In fact, it is more likely to increase than diminish. * If we accept that the strategic gap will continue to be

* Pious comments regarding diminution of the strategic-military gap separating the superpowers from other nations, nuclear and non-nuclear alike, is reminiscent of some high-flown discussions regarding the "income gap" which were particularly popular in the 50s. It was frequently stated at that time that it was essential to diminish the gap between the affluence of the developed nations and the poverty of the underdeveloped nations. In the intervening period per capita GNP in the United States has risen by more than $1,000, while there remains some question whether per capita income in the underdeveloped countries has risen at all. Diminution of the income gap was simply not a feasible objective. Similarly, in the strategic area we are not going to have any diminution of the gap between the superpowers and the rest for the foreseeable future. It is never sensible to base one's policies on hopes for the unobtainable. Therefore let us avoid repetition of this particular class of past errors. Whatever else our policy is based on, it should not be on an expected diminution of the strategic gap.
enormous, what seems desirable is that the character and width of the
gap be sufficient to permit the superpowers to exert a stabilizing in-
fluence on the restless third areas of the world. Moreover, this
stabilizing function needs to be perceived by those that may come to
possess a minor nuclear capability. This potential stabilizing function
should not lightly be discarded in the quest for a somewhat mythical
low posture.

Second, the spread of nuclear capabilities into third areas will
very much intensify the existing elements of instability and the danger
in instability beyond what it is today. The nuclear capabilities will
be unsophisticated and vulnerable. Given the existence of vulnerabilities
and the temptation to exploit a temporary strategic edge, the likelihood
of nuclear initiation through a hair-trigger response seems obvious.
Most persons who seek a more peaceful world would find beneficial the
ability of the superpowers to forestall the initial use of such capa-
bilities. In seeking arms control arrangements we must keep in mind the
bilateral U.S.-Soviet relationship, but we should also remember that
increases in our capabilities, when matched by the Soviet Union, may
serve to diminish the risks of dangerous outbreaks in third areas of
the world.

Third, most nations, even when they strongly disapprove of specific
aspects of U.S. policy, desire that the United States stand ready to
counter nuclear threats against nations lacking in the means of self-
protection. The United States, in particular, is being called upon to
perform functions that other nations are not called upon to perform.
If the United States is expected to play the role of a nuclear Galahad,
risking nuclear retaliation and loss of population in behalf of others,
it does not seem unreasonable for the United States to possess protective measures of a type not universally available. Nor does it seem wholly consistent for those who rely on U.S. protection simultaneously to urge the United States to accept a low posture and to stand ready to intervene in their defense. If a nation is expected to accept losses in behalf of others, it seems reasonable that the potential losses be held to a minimum. That those on whom the role of nuclear Galahad is thrust should desire thicker armor seems understandable.

IV. CONCLUSION

The strategic importance of proliferation has tended to be exaggerated because the problem has been viewed qualitatively in terms of enumerating those nations that might acquire a small capability rather than quantitatively in terms of the destructive potential of the capability that might be achieved. As far as we can see into the future, the strategic environment will continue to be dominated by the preponderant military power of the United States and the Soviet Union. It is possible that the spread of weapons will result in greater inhibition on the use of power by the United States or the Soviet Union in regions of less than vital concern. The degree of inhibition depends upon the risks that we (or the Soviets) are willing to run. However, if we desire to accept the risks, we could, because of our preponderant power, continue to intervene in unsettled areas to diminish the risk of small-scale nuclear war.

With the spread of weapons there would be a greater likelihood of use or misuse, but the risk of use or misuse will be concentrated primarily in the third areas of the world. Given the current and
prospective stable military balance between the United States and the Soviet Union, it is difficult to envisage conflicts in third areas escalating into exchanges between the ZIs of the two major powers. This implies, of course, that proliferation would impose enlarged risks primarily on other nations. The superpowers will continue to be relatively immune; the threat to them will continue to come primarily from each other. In all analyses of proliferation this asymmetric distribution of the risks should be stressed because of its possible impact on the incentives of aspiring nuclear powers.

A substantial diminution of the strategic gap between the superpowers and others is simply not in the offing. The only way in which reduction of the gap could be influential is if it undermines the credibility of intervention by a superpower to stabilize conditions in third areas being subjected to nuclear threat. This is not necessarily beneficial, and it is doubtful whether those in threatened areas would desire such an outcome, if they think seriously about the problem. What may be desirable is to make crystal clear that despite nuclear spread the major powers will retain the ability to intervene to deter nuclear threats or to punish nuclear irresponsibility without risking substantial damage to themselves. This does not necessarily mean that the major powers will be forced to deploy all those systems, like ABM, which hold some promise in this regard, it does mean that they shall be forced to work diligently so as continually to upgrade their ability to detect, deter, disarm, or punish the national source of nuclear irresponsibility.

While nuclear spread is basically destabilizing, its strategic consequences need not be too severe. Simple nuclear capabilities cannot
play the role of "equalizers" in international conflict. The strategic position that the United States and the Soviet Union currently enjoy is so unassailable that even continuing action by third parties is unlikely to upset the central strategic balance for the next twenty years. Properly exploited, this central strategic balance could continue to provide some stability in regional conflicts--even in the face of nuclear spread.