

2/27/70 Address at U.S. Air Force Academy, Colorado

Officers and Cadets of the Air Force Academy may very well regard the military-industrial complex as a category superimposed on military organization and system by outsiders in a critical vein. The actual history of the military- industrial complex and its development in the recent past follows, in fact, a rather different pattern. On April 27th, 1946 , the Chief of Staff of the U.S. Army circulated a memorandum to directors and chiefs of War Department general and special divisions and bureaus and the commanding generals of the major commands. The subject of the memorandum was scientific and technological resources as military assets. The thrust of the memorandum was to advise that henceforth a proper military organization in the United States required sustained and close collaboration between military organizations and civilian industry, civilian technologists, and civilian scientists. On January 17th, 1961, the writer of this memorandum delivered a farewell address to the nation as he was leaving the office of President of the United States, and in this farewell address cautioned the nation against the consequences of the military-industrial complex unchecked. President Eisenhower selected the theme of the military-industrial complex for emphasis because he knew exactly what it was. He was the leading specialist on the subject, having founded this complex fifteen years earlier. No sooner had President Eisenhower announced the existence of this complex, than the complex was, in fact/ terminated. It was terminated by the action of President Kennedy and Robert McNamara, who proceeded to revise the organization of the Department of Defense, especially in the Office of the Secretary of Defense, and substituted for the military-industrial complex a new institution which, in a forthcoming volume entitled Pentagon Capitalism/ I have designated the state-management. What was the complex/ what is the state-management? The complex was a market network, a _____ of buyers and sellers who traded with each other/ that trading being often facilitated by members of Congress and other well-wishers. As a market/

the complex was not formally structured/ had no designated budget/ mailing address, telephone number, executive committee, or planning board. The state-management, however, was a new entity. The state-management consisted and still consists of an industrial management organization established in the Office of the Secretary of Defense. The designation of these units as an industrial management does not correspond to the official titles of the various groups, thus: Defense Supply Agency, Defense Contract Administration Services, Defense Contract Audit Agency, Directorate for Research and Engineering. These are terms which ordinarily do not signify an industrial management. A management is identified, however, by functions performed, not necessarily by title. So the critical thing is to understand what functions are, in fact, performed by these newly-established entities under the Office of the Secretary of Defense. A management is a body that gathers capital for production, that decides what shall be produced and in what quantity, that decides how production shall take place and how the process shall be controlled, that decides on the price of the product and how the product shall be shipped. Whoever performs these functions is managing, and these are precisely the functions that are performed by the combined set of organizations established under Robert McNamara's stewardship in the Office of the Secretary of Defense. The form of this organization in which these functions are performed follows the pattern of the central administrative office form of organization in large U.S. industrial firms, thus: a central administrative office operates to formulate general policy and police compliance with general policy in large firms. Those who implement the general policy, making the detailed decisions involved, are the submanagements operating divisions of these firms. So the central administrative office supervises the operation of sub-management who in turn conduct production and other operations. It is only reasonable that Mr. McNamara should have installed this mode of organization; it is the one that he operated in the Ford Motor Company and the one in which he and other associates, indeed, became expert in, having been trained in this understanding of this preferred mode of organization after the Second World War and participating in the Harvard Business School and elsewhere in giving instruction on

the modus ... mode of operation of industrial organization of this kind. Hence, what Mr. McNamara did is to be understood as an ordinary act, installing into the Department of Defense an ordinary, conventional type of organization. It is precisely the ordinariness of this organization that is important, because we understand many of the characteristics of such an organization. Thus, the new management, unlike the complex, has a budget, has a planning section, has an address, has a telephone number, has a formal structure and hierarchy of designated functions, and, unlike the complex, has a built-in institutional mechanism for the expansion of its decision-power. For an industrial management is successful insofar as it expands its decision-power, whether by tests of capital invested, number of employees, quantity of product sold. Furthermore, this expansion of decision-power

is understood as successful when it is differential expansion, that is to say, when one management grows relative to others. And that is precisely what the state-management has been doing. Of the \$1200 billions expended by the United States for various military purposes since the Second World War, more than half has been expended under the stewardship of the state-management. Never before was there such rapid and sustained growth of military budgets outside of the periods of World Wars One and Two. The size of the state-management's operation is noteworthy. In 1968, it controlled \$44 billion worth of industrial operations. This exceeded the combined net sales of General Motors, AT&T, U.S. Steel, General Electric, and DuPont, thereby rendering the former giants of American industry medium- and small-sized enterprises. The control exercised by the state-management should be appreciated separately from the issue of ownership. As we were taught by Burly and Means in their classic on the modern incorporation and private property in the 1930's, the modern corporation does not necessarily own the resources of the firm, but it does control them, in exactly similar fashion. The network of firms nominally identified as privately and separately owned are, in fact, controlled in combination and in extensive detail by the new state-management. One illustration: the Standard Oil Company (New Jersey) is appreciated as one of the

larger firms in the United States. Its world-wide operations are controlled from a central office located in Rockefeller Center, which has a staff of three thousand. Also in New York City there is a regional office for the state-management. That regional office has a staff of three thousand six hundred. What is critical in this analysis is not so much the scale of particular resources being controlled as the fact that the state-management has a self-expanding dynamic, and that itself is important, of course, only insofar as that is weighed against the test of precisely what is it that is being expanded, what function is being done more of. The existence of a complex or the existence of the state-management would not be an issue, I believe, and I do not think it would occur to anyone to give a lecture on this subject, if it were the case that the state-management and the allied organizations were in fact delivering what the title of the department containing them promises, namely, the defense of the United States. If that, in fact, were being purchased and delivered with reasonable assurance, then there might be discussion as to the scale of resources being used or the techniques of management of these resources, or there might be discussion as to emphasis on one over another _____ within the system. The point is precisely that something has happened to the very nature of the military function since the Second World War. You may recall that at one time the United States had a War Department. That was an operationally correct designation. That department and the allied Navy did promise the Congress and the nation each year to perform the defense of the shores of the United States. No such promise has been heard from the present Joint Chiefs of Staff, nor will it be heard. And the reason is that there has been a fundamental transformation in the nature of military power, and in my judgement there has yet to be an appropriate response to the nature of that transformation by either the complex or the state-management or the uniformed professional military institutions that operate under their superintendence. In the Battle of Britain, in 1940, the RAF was victorious because it shot down 10%, approximately, of the incoming Luftwaffe aircraft, and that meant a win on the side of the Royal Air Force, because then the Luftwaffe aircraft were good on the average for ten round trips, and the problem of the Luftwaffe generals

was, was enough military round effect being obtained from ten/trips to justify the expenditure of the plane and the crew. The answer was obviously no. Now let us suppose, Gentlemen, that those aircraft were carrying nuclear warheads, not conventional explosives. And let us suppose that the RAF effectiveness on the defense was not 10% but 90%. It is only reasonable to understand that within rather few days the incoming residual 10% would destroy the bulk of the population-industrial system of Great Britain. The transformation is clear: with nuclear weaponry/ there is a concentration of energy release at one time and in one place hitherto unknown. And from a military standpoint, the offensive was given overwhelming and continuing advantage. That capability continues and was amplified by the multiplication of nuclear warheads, by variety of size, and by multiplication of delivery systems. It is thus the case today that there is no science or technology or combination thereof from which to anticipate 90% efficiency in defense, and even if that could be anticipated that would not constitute a competent protective shield of a major society. In a word, we have entered into an era in which several Presidents and several Secretaries of Defense at various points have noted and plainly spelled out that with nuclear weapons available in quantity and deliverable by varied means, each society so equipped can destroy the other, neither can prevent that from being done, regardless of who moves first. And so, instead of defense being understood as a protective shielding, defense is proclaimed as being a species of deterrence. Deterrence is, of course, not a shield; deterrence is a title of a psychological experiment. The hope is that fear is induced in the opponent sufficient to induce inaction. However, various operations that are relevant to this tell us that in a large and varied society, some men may be struck with fear and rendered immobile, and others, oppressed by fear are rendered more active and more aggressive in response. In any event, the prospect of deterrence and the prospect of retaliation is hardly the same as a shielding of a society from external destruction. However, there has been no attempt in recent years to re-title the name of the relevant government department into a department of deterrence, hopefully, and retaliation, maybe. There is another major side in military

operations in the realm of conventional war, and in this realm the counterinsurgency tasks have had recent major importance. Without detailing, I wish to note with respect to conventional wars that an extraordinary development occurred after the Second World War. In no case since the Second World War has a conventional war between nation-states been allowed to operate to a military conclusion. In every instance, there has been intervention by single powers, by combinations of states, to terminate military operations. That has been done because of the well-appreciated fear that nuclear powers may become part of these military contests and that the intensity of operations may escalate to the nuclear level and hence become society- and even mankind-destroying. It is that well-founded fear that has led to the readiness of BO many governments to intervene singly or jointly and terminate such wars. Another aspect of military operation is the so-called counterinsurgency strategy. Without knowing it, I participated in a study in 1957-58 which developed a competent theory of guerilla warfare. At that time, in 57-58, I was charged with researching the question how to ensure reliable compliance with an international disarmament agreement. So I turned that around, as one side of the investigation, to be the question, under what conditions might an international inspectorate be evaded, be subverted. Stated differently, if you want to study ... if you want to design safes, you had better study safecracking. In that understanding, we formulated, from the data of Germany after World War One, the Irish Rebellion, the experience in Malay, the experience in Palestine vis-a-vis the British, the experience of the Yugoslavs vis-a-vis the German army, a theory of the conditions under which illegal military organizations could operate with success even against an opponent equipped with massively greater numerical forces and firepower. The three conditions of success of such operations were: (1) that the illegal army be composed of men who are prepared to put their lives on the line for the purpose at hand; (2) that in doing this work they are surrounded by a supporting population which shields and/or assists them; and (3) that in doing this activity, the illegal military organization operators appear innocent, undifferentiable against the background population. By

1964-65, I discovered that what I had been understanding as illegal military operations is now called guerilla warfare. Having some confidence in the predictive power of this theory, I called upon Secretary of Defense McNamara, in 1965, and put it to him that insofar as the American opponent in Vietnam was operating in the way described by these rules, that the armed forces of the United States were headed for a military no-win. This could be avoided only under two conditions: (1) if the support of the surrounding population were withdrawn by political means; or (2) if there were no surrounding population. I derived no sense of achievement whatever at noting the fact that McNamara and those subordinate to him followed a false theory and led themselves and this nation into an entrapment. From a military standpoint, I judge that the military services of the United States were given a task which could not be performed. My finding is that there has been a reluctance or an incapability or, for whatever other reasons, a failure in the highest command circles of the American military services to comprehend two important lines of understanding: (1) that the introduction of nuclear weaponry caused a major transformation in the military art; and (2) that guerilla warfare represented a military expression of a political movement, the combating of which is not a fit subject for an armed force. I find that a series of assumptions are continued in operation whose validity is rather doubtful. (1) Before nuclear weaponry, was assumed that if only the parts of military systems were improved, that that would lead to an improvement of the system as a whole. That strategy is called suboptimization. Hence, a better rifle, a better bullet, a better plane, a better wheel, a better Band-Aid, a better ration — each, it is assumed, contributes to and produces an improvement in military power as a whole. That expectation is, of course, curtailed by the limit on military power set by nuclear weapons or the limit set by the nature of guerilla warfare. Thus, to accumulate offensive power of the nuclear sort does not mean an accumulation of competent military power. A person, after all, can be destroyed only once, and even with a \$7 billion annual R & D budget, the D O D is not about to discover how to do it twice. Second, there is no defense in the nuclear era, in the sense of a protective shield. There may be security,

but security cannot come simply from an accumulation of weaponry. Third, the meaning of military superiority has been utterly transformed. If the U.S. can overkill the Soviets more than a thousand times, as has been calculated in 1963, and if they could overkill us only 300 times, who is ahead? Suppose these military forces were reversed; would there be a difference? The meaning of military superiority in strategic operations is obviously transformed. Finally, the winning of a war, where that involves major use of nuclear weapons, is clearly an exercise of traditionalist thinking placed into an era where the means for realizing such ends are no longer available. Of course, military organizations are pressed to contribute to the security of a society. And it is hence important to understand what security means and what it does not mean. For example: security of a society means to afford protection against external destruction; but security also means the well-being of a population. An elaborately equipped society — say, equipped with a full ABM system and the full shelter complex that must go along with it — would necessarily be a type of authoritarian society, for reason of the massive economic requirement to build the ABM system and the shelters, and to operate a shelter-based society. The protection versus external destruction is not purchasable at the present time in the form of military formation and allied weaponry. No one knows, there is no science from which to forecast the ability to construct, literally, a shield. The well-being of the population is a matter of equal importance and obviously cannot be described simply in military terms. I regard the policies of the last period, under the dominion of the state-management, as leading this nation into a series of disastrous situations. There has been an attempt to prepare this nation to fight three wars at once — a NATO war, presumably a nuclear exchange with the Soviet Union, a war in Southeast Asia, and a lesser engagement in Latin America. Hence fifteen carrier task forces, hence the multiplication of missiles, and the like. Hence the multiplication of army divisions, hence the new formations like Green Berets, and so on. I regard this effort to operate the military security of the United States as though there were not nuclear and guerilla-type constraints on military power as leading this nation into military, economic, and

moral disaster. The economic cost of this activity, one would suspect; is something that a state-management proclaiming cost effectiveness would know how to calculate. However, the sorts of cost to the society which I outlined in a volume called Our Depleted Society was an analysis rejected out-of-hand by the learned gentlemen operating the state-management in Washington. They saw the United States as indefinitely wealthy, as capable of having guns and butter. Lyndon Johnson simply would not hear the idea that the Great Society could not be installed even while the DOD budget was in the realm of \$7 billion. If we regard the last period as a great experiment, then we should learn some lessons from it on the economic side. Even a nation as wealthy as this one has limits to its power, to its economic capability. If money can be printed at will, skilled manpower cannot be printed at will. And when I confronted Robert McNamara in 1965 with the tragic array of depletion in many facets of American industry-and other aspects of life, his rejoinder was to say, "Where is everybody?" And I had to remind him that he had them. That is to say, a preponderance of important classes of skilled manpower were in the employ and in the service of the Department of Defense and unavailable for other work. The limiting condition is, of course, many-sided, and it took an entire volume, in this case Our Depleted Society/to outline it. But I will suggest two of the limitations that have been proposed, two limitations which drastically affect the security of American society. There are about thirty million Americans, plus or minus a few millions depending on how you set an arbitrary dividing line, who live in economic underdevelopment means high infant mortality rate, limited life span, limited education, limited productivity, limited income, high incidence of endemic disease. The majority of these are white, the rest Black and Spanish-speaking. The cost of economic development is calculable: for thirty million Americans, or seven and a half million family units, approximately fifty thousand dollars per family unit, or three hundred seventy-five billion dollars. If the necessary work were to be done, the work of improving the human capital and providing productive work, that would involve, say over ten years, an outlay of thirty-seven billion a year. That activity cannot be performed in the United States today, not

because the money can't be printed, but because the skilled manpower necessary to do the work is simply not available, is busy elsewhere. Very immediately: the city where I live, New York City, and every other major city in this country, is now being pressed by an epidemic of the use of drugs. Thousands of Americans, especially young people, are being seized by this plague, and it is producing an immense decay in the whole quality of life. When persons are heroin-addicted, as is well known, they desperately crave that drug, and they are prepared to do, and they do anything to get it. Hence the escalating rates of criminality, the acts of desperate men. There is no presently available facilities, nor are they in prospect, to cope with this development. Neither the manpower nor the homes nor the persons to care for them medically are in existence. The society has no present capability to cope with this disaster that is engulfing an entire generation. I find it distressing to note that every week in New York City numbers of teenagers are dying of heroin overdose, and that adults in the tens are dying each day of each week. Finally, there's another cost, that comes from the long priority to one formulation of military security, and that is a failure to prepare for conversion from military to civilian economy. Proposals of a serious sort to prepare for such conversion have been resisted. They have been resisted not only in the Department of Defense, but, more critically, resisted in the White House and resisted in the Congress. That resistance has not served this nation well. Finally, I want to indicate that I have the view that the United States, in a foreseeable future, should have a military security system, and the question arises, what sort of military security system? what would it cost, and what change might it make? A year ago, I prepared a memorandum to the Senate Armed Services Committee and to the House Committee, and made proposals on the military budget of the United States and attached thereto as well a proposal on a design for an essential reconstruction of armed forces. I noted that the present armed forces are designed to fight three wars at once, and I found that assumption unsatisfactory, and put it aside. I proposed an alternative military security posture in the United States. One: that there be forces capable of delivering nuclear weapons, hopefully to serve as a deterrent. Second: that

there be forces competent to guard the shores of the United States. Third: that there be forces competent to participate in peace-keeping in other places in the world, preferably in concert with other nations. This design of military security policy casts out two implicit policies that have been present until now. One: that there be capability for fighting and winning a nuclear war. Second: that there be capability for fighting a series of Vietnam-type wars. Using the three criteria that I just set forth, I found it feasible to extract from the proposed budget of the Department of Defense a whole series of items, on the grounds that they either contributed to escalating meaningless nuclear overkill or that they serve to contribute to forces whose only understandable function would be the fighting of Vietnam-type wars. Extracting those programs would leave the United States an armed force of two million three hundred thousand men, elaborately equipped with nuclear and conventional weapons, fully capable of performing the three functions I indicated. A force of 2,300,000 is approximately the size of armed force that obtained under the stewardship of Dwight D. Eisenhower in the White House, and I recall to you that no one ever suggested that General Eisenhower was a unilateral disarmer. The force of this size is obtained precisely by a series of reductions, the sum of which is \$54,794,000. I will publish the full text of this memorandum in an appendix to the volume Pentagon Capitalism, so that it may be put ... may be given open scrutiny. Lastly, I wish to suggest that, from other work, I find it entirely plausible to conceive of a military security force of the United States designed afresh and operating on fulfilling the three military security criteria that I suggested, which would be composed of just under one million men. I am delighted to be able to be at the Air Force Academy and to have the opportunity of outlining to you a set of observations and analyses at least a part of which are not altogether in accord with conventional thinking in these realms. But I hope that the discussion that may proceed will serve the function of the security of this nation. Thank you.

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I'll be more than pleased to hear your comments, respond to your questions.

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Q: Dr. Melman, ... (inaudible) ... but isn't the idea that the Soviets have so much overkill and we have so much overkill, isn't that rather simplifying? I mean, during the period of McNamara, weren't we really concerned a great deal about nuclear blackmail, in the ... (word inaudible) ... that, I know McNamara himself would make a decision on a particular new technology, or rather, want to keep the options open. As I look around the Air Force today, I recognize the fact, as do other people, that we haven't had a new airplane on the drawing boards for fifteen years, something of this nature, I mean a design for other than the E-102, F-15 which is coming down the pike. I exclude the F-111 because that was a joint service plane and not strictly Air Force. We look at the space end of things, we realize that the Air Force really isn't involved too much, although we have an aerospace designation. The (Mall?) program, the (general) laboratory program was cancelled. You recall the McNamara people cancelled the Dyna-Soar program, Skybolt was cancelled, numerous other things like this. Everything that McNamara wanted to do, as I understood it during my time in the Pentagon, was to keep the options open, principally, to prevent things like ... (inaudible) ... this sort of thing. Well, in view of this, now, you look around like this, isn't this oversimplifying just to say that we want, that the fact that we do have overkill leads to the fact that we shouldn't maintain people, a great R&D capability?

Melman: I see. Well. I suggested that since the winning of a war in a nuclear exchange no longer has, is a concept without definable meaning, that that should lead us to review our understanding of the military security posture of the United States. In my understanding, the notion of capability for fighting three wars at once was developed under McNamara and made the guiding criteria of the Department of Defense. That is found reflected in McNamara's annual report on military posture, and it's reflected in comments that I have received from authoritative persons. It's now generally acknowledged to have been the orientation in

weaponry. Now, of course McNamara and his subordinates sought to prepare forces which, in their judgment, would be competent for these functions, and they sought to eliminate formations, functions, weapons, or the like, which, in their judgment, were thought not to be appropriate for that. So they closed some bases, and so on, and so on, and so on. But they also tried to do what you call maintaining options, that is to say, they tried to see the design of forces such that there was a full spectrum of capability, that is, that the United States would have military power of such diversity and in such numbers as to be able to use military power as though an all-purpose device in numerous political-power-type confrontations. Now it is precisely that orientation which falls afoul of two things.

The inability of anyone to specify how to use nuclear power to win, and secondly, the inability of anyone to stipulate how to use conventional forces and to win, as in the case of the Vietnam-type war. But there have been to date no visible readiness to confront these major limitations. Oh, in the last statement on the state of the world from the President, there was some suggestion about, or there were words like, there ought to be sufficiency, and so on and so on, but there wasn't a straight-out confrontation of the new change. On the other hand, I don't necessarily expect the President or his helper Mr. Kissinger to come forward with these formulations. After all, you should remember that it was Mr. Kissinger who was a theorist of the planning which led to the three-wars-at-once perspective. So there is a continuation, at least at that level, of a certain type of orientation. Another way — I know these are many-sided things, but I'm saying these things knowing that I'm not necessarily being completely satisfying in responding to your question, but only to indicate that there are many alternative ways of looking at this, and that some of them may produce results that were not necessarily anticipated. For example, I have the judgment that the state-management and many of the consequences that flowed therefrom, the three-wars-at-once program, is substantially owing to decisions made by John F. Kennedy. And I said so in the last chapter of Pentagon Capitalism. I wrote as follows: "The state-management was formed and enlarged under the direction of President John F.

Kennedy. He and his advisors centralized and consolidated control over military industry. Thereby they gathered into very few hands the top economic, political, and military power in the United States" May I interpolate? In the opening chapter of this volume, I said that by so concentrating military, economic, and political power, they frustrated one of the basic designs of the men who wrote the Constitution of the United States, and in making this concentration of types of power in one hand, installed into the government of the United States a feature of what has been understood until now as a bolshevik or fascist type of society, for there this concentration of functions in the same top hand is regarded as desirable, as laudable. Not in the United States, not under the Constitution. I wrote, these men were evidently captured by the prospect of wielding political decision-power by applying America's technical brains and industrial capacity towards forging a super-military machine capable of flexible response in diverse situations. This was their first priority, and all the rest flowed from this.

Q: Assuming that what you say is true, about this program budgeting system that McNamara put in, it seems like the solution would be simple. You simply institute budget constraints from the White House and solve the problem.

Melman: In 1963, after I circulated a memorandum on some characteristics of nuclear and other military power, its budget costs and the like, and consequences for the nation. The memorandum was called "A Strategy for American Security." I showed it to, among other persons, Mr. (inaudible) Stans who under Eisenhower was the Director of the Bureau of the Budget and, as you may know, is now the Secretary of Commerce. Mr. Stans was substantially approving of this memorandum and, in fact, urged us on, pressing the Kennedy administration, saying very clearly that under Eisenhower — a man who understood his brother officers — the appreciation was that one way of regulating a military establishment in proper style was for the White House, for the top civilian authority, to say, the nation can

afford so much for the purpose of military security. Here it is, and you, as our technical specialists, are charged with making the most of it. That orientation was dropped completely by John F. Kennedy and McNamara, and they really entered into the entrapment of presuming that somehow, by wielding America's brains, you see, by more R&D and the like, they might find a way out of the new condition of essentially power parity enforced by nuclear weapons. Well, I must say that a week ago, meeting with some senior men in the Congress in Washington, I made precisely the proposal that there ought to be a turn and that the Congress should take the view — no discussion of details, it's inappropriate for the Congress — no discussion about airplane A or B, or who should get a contract, or whether a tank turret is the right turret, or whether one cost overrun is a good cost overrun as against a bad cost overrun — that that is a preposterous mode of address to these issues. That rather the Congress, fulfilling its obligations under the Constitution, for the security of the United States and the general welfare, should vote a block of money and charge the Executive with performing the military security function with that money. And a Congress so minded would not have very great trouble in justifying a reduction in the funds made available to the Department of Defense under present conditions, if not by \$54 billion, well then perhaps by a conservative \$50 billion.

Q: I know this is probably rather elaborate and complicated, on something like but I would like to know just perhaps/three or four items, what would be your major cuts to get this \$54 billion? You really might force me to buy the book!

Melman: Well, fortunately, I happen to have with me ... Well, here are the items. Cut the AEC budget for new warhead production — last year that was 1,418,000,000. I would cut the R&D item, insofar as most of it was an attempt to find superiority somewhere, somehow. Now, the really big items that are involved here — the ones I indicated, the proposed

bomber defense system, SAGE, then reduction in Vietnam war manpower, that is to say on the assumption the Vietnam war is terminated, then, say, 639,000 men, roughly, reduced from the armed forces. May I recall to you the armed forces were increased from 2.4 to 3.5 million uniformed armed forces during the tenure of Kennedy-Johnson. The Vietnam war itself I reckoned as involving an incremental cost of 20 billion — incremental, that is not total cost, incremental means the cost of the additional items, you see, transportation, you know, fuel, munitions, and so on and so on, occasioned by the operation of the war. Reductions of surplus military manpower by various counts, reductions of overhead forces. Reducing the operation of attack carriers, reducing the operation of ...

Q: To what? Do you have figures?

Melman: Oh, this is a very, the attack carrier reduction item is only 360 million. This doesn't even begin to get into the question of should there be fifteen carrier task forces, that is to say, what are they for. I've always understood that the proper way to design armed forces is in light of a war plan, that is, who are you going to fight, where, when, under what conceivable circumstance. The notion of designing an armed force so that we have all options is preposterous, because all options is an unlimited, you see, an indefinite array of alternatives which can be extended insofar as you have ingenious men charged with extending these alternatives. Well, that's a way to becoming expensive almost without limit. New naval ship construction to be cut by 2.4 billion. I cannot understand the present size of the naval forces except in light of this absurd three-wars-at-once program. It makes no kind of sense at all in any other program. Well, those are the main items, you see, it gets to be a matter of detail. Now, for this year's budget, if one did the homework, one would discover another thing, and this is very, very interesting. The issue National Journal of February 1970 in Washington collated, for example, list of weapons programs on which spending is proposed in the next budget, and then they noted the full estimated cost of these programs. So

it emerges that the proposed budget for 1971 is something of a charade. Here's how it's done. There are increments of spending, for example, for new weapons programs, but those increments are in fact small minority fractions of the prospective total cost. Then, for other programs, some of them already started, there are reductions made in the increments of expenditure to be made this year. The net result of this is the appearance to the unsuspecting reader of the budget, that there is a reduction being made in activity. Now that's a charade, it's make-believe. If you examine the prospectus, that is, the full commitments involved, you see that there is no necessary reduction at all — in fact, there's a large addition. I'll give one example, the ABM system. If that's enlarged to a so-called thick system, and it would cost about \$50 billion, in one estimate, then we must take into account the fact that both under the regime of the complex and the state-management, big systems have cost three times the initial estimate. So the proper estimate today would be not \$50 billion but \$150 billion. (portion missing, to second side of tape) overruns, whatever, would amount to \$500 billion for a population of 200 million. That is based on a proper set of engineering cost estimates. Well. An expenditure of \$650 billion, if done in five years, roughly \$130 billion a year, that requires an almost doubling of federal income taxes, but looking at it differently, it would require preemption of the total output of certain industries, like cement, steel, preemption of work-forces. It would involve setting up a thoroughly authoritarian society, out of the economic imperative of marshalling the resources. What, indeed, would we be defending under those circumstances? So, I find that there has been something less than candor toward the public in the way the federal government has proceeded on these matters. Now, mind you, I'm not prepared to say that these proposals are each detail just, proper, and laden with wisdom. I am, however, prepared to say that I would willingly undertake a justification of these proposals to any critical scrutiny, and that I would hope that competent persons would proceed to examine these matters in a fresh light. I was not encouraged, for example, when the Senate Armed Services Committee refused to permit testimony on these matters and

would only receive a memorandum for the record. Neither was I encouraged by the mode of operation of the Armed Services Subcommittee of the House Appropriations Committee, where Mr. Mahon, sitting as chairman of the Subcommittee, permitted testimony but only in camera — that is to say, no outsiders, and assuredly no press, being permitted — and when Mr. Mahon, upon presentation of the statement, would not permit questioning or comment by his committee members. Now, as long as these matters are being subjected to constraint of that sort, I think something is missing in the competent, orderly consideration of military security requirements of the United States. Looking at the matter differently, if we were to set about today to design armed forces to operate prior to any disarmament treaty, that would be competent to wield nuclear power, to guard the shores of the United States, to participate in a flexible way in international peace-keeping operations, such a force could be designed consisting of the manning force of a nuclear delivery system — it could be either the Polaris system or the Minuteman system, it would be difficult to justify both— it could include the operation of a sophisticated type of coastal patrol system, and it could include the formation and operation of about a hundred airborne battalions of lightly/light-weight armed and high-firepower armed troops of great technical competence individually and jointly. And this force would be in keeping with the new condition of nuclear military power and would be in keeping with the new condition of constraint on the use of military power, of conventional forces of all sorts. There has been a reluctance, and it's well understood, there has been a reluctance to review the conventional wisdom, to rethink the assumptions that we've lived by historically. And it's true not only among military persons, it's true in almost every walk of life. It's a hard thing to do. But I think it has to be done. It has to be done, and what is called by the President and others the priorities problem finally becomes a very, very persuasive reason for doing it, and one would think that there is, and hope that there is enough imagination and initiative and innovativeness among the professionals responsible for the military security of the United States to undertake that review and innovation, on their own, on their own,

and to step forward with imaginative proposals to cope with military security in the new era, while telling the Congress, and telling the President, what is possible and what is not possible in this era.

Q: What feeling do you have about the military role in space?

Melman: Well, in the foreseeable future the observation satellites system will probably be retained, very desirably, in fact even under, if there were internationally agreed program of disarmament, the observation satellite program would have the same, in fact additional, importance. That's one type of program in space. A second type of program might involve a proposal, say, delivery of weapons via space vehicles, and there one falls afoul of many awkwardnesses. Some of my colleagues advise me that it's rather simpler, as a technical problem, to move things from one part of this planet to another part than from some place in outer space to a point on the planet. A third prospective on the military role in space might involve some interests in certain scientific or technical research, but that's another affair. That would partake of a wider interest in scientific explorations in space, for which I think there has been very competent program formulation. That is to say, before John F. Kennedy had a political panic and decided that America has to set foot on the moon first, there was a body called the Space Science Board, which met and which drew up a schedule of proposals in an approximate order of priority, what to do. Well, the manned landing, manned exploration of the moon, was, I forget, 25th or 30th on the list.

Q: I believe you mentioned you wanted to eliminate the "safe" system and have ... (end of sentence incomprehensible) ...

Q: ... is that correct? Melman: Yes, that's right.

Q: Do you propose that you wanted to have a good defensive force, the "safe" system is essential. For example ... (the rest of this question is not comprehensible enough to reproduce. it may or may not have something to do with MIG flights over Cuba, a thing called EC-21, and subsequent budget cuts.) ...

Melman: Well, in the sort of armed force that could be set up, you could operate that function, you see, that you described, that is the coastal patrol, and so on, in rather less costly fashion than is being done now. But there's one thing that I think has to be marked up clearly, and I suppose that's the assumption I'm involved in, and that is that there's no way of making an airtight shield. They can't do it. And the reason is the diversity — again, if you want to just play the nuclear game, let's forget about all the other ways by which a determined opponent might do you in, the bacteriological thing, let's leave that all out — a determined foe can deliver nuclear weapons in a great variety of ways, of which aircraft delivery or missile delivery are only two.

There are numbers of other possibilities. For example, one way of doing in a big place like the United States is the detonation of nuclear warheads in international waters off the Pacific Coast. With the prevailing winds carrying "dirty" radioactive matter over the continental United States and having the competence to do in the whole nation thereby. I, the numbers of options that are possible in that realm are really very great. There's a certain amount of literature on these subjects, some that may read like science fiction, but don't make the mistake of judging it that way at first blush, read it seriously, and understand that if persons here who are perfectly sane and reasonable men can formulate such concepts, then someone else in another country can do the same thing. I find it unseemly, for example, to hear this discussion about Chinese ICBMs. If Chinese rulers were ready to risk the destruction of their estate by an American nuclear force by adventuring an attack on the United States, the notion that this might be done in a way that some scattering of ABMs could intercept is, to my appreciation, absurd. A, if a Chinese government were ready to undertake the suicide

decision of attacking the United States, there's no reason why missiles would be called for at all. Rather, it would be the underwater detonation off the West Coast that would be one of the preferred modes of operation. Sometimes Americans are frozen in an odd way to contemplating ornate technological systems as though they were the only ones around. That's an error. There can be simple, low-level technology devices accomplishing the same result. Maybe taking a little longer, but accomplishing the same result. Sometimes, then, we tend to project from our mode of understanding onto other people, and that is not always a very successful way of forecasting how other people might understand us or how they might behave.

Q: Sir, you mentioned earlier the, you mentioned three functions that perhaps a more adequate, more efficient military service might involve. One of these functions was the defense of the shores, if I'm not mistaken.

Melman: I didn't say defense of the shores. I said guard the shores. This is quite a difference, you know.

Q: Okay, sir, I'll buy that, but could I ask you to be a little more specific as to what you mean by guard the shores, because I think that comes right under a subject that was discussed. You were speaking of antiquated Russian aircraft that came in and never were spotted. Now, if that is okay, if we can overlook that and become a little more worried about some of these other more spectacular, fantastic methods, what do you?

Melman: Well, I don't think it's reasonable to anticipate the operation of a system that would, for example, spot every Piper Cub that might be flown in over the tops of the waves. You know, a Piper Cub can be a very competent delivery vehicle ... it can carry all sorts of things. The V-1 of World War Two vintage used by the German Army is a very competent delivery vehicle. You remember, that was a small winged vehicle which presumably with a little updating could be made to operate at very low altitudes, say 100 feet above the water, ramjet engine, can be launched by anything at sea, short flying time, very very hard to intercept.

Oh, you don't have to be accurate with modern warheads. The V-1 had just the right kind of CEP for London, even with conventional warheads.

Q: Sir, would you comment further on some of the high political problems involved in selling ideas to the Nixon administration?

Melman: Well, I don't know that I'm trying to sell my ideas to the Nixon administration. Unless someone feels that he represents the Bureau of the Budget in this room.

Q: I don't mean in this room, I mean through your book Pentagon Capitalism.

Melman: Well, I didn't orient it, if I may say, to sell to the administration, really not. The book Pentagon Capitalism is an analyst's view of what has happened and what is proceeding, and this memorandum that I've alluded to appears as an appendix. It's an afterthought, if I may say so, it's a relevant afterthought. But I haven't attempted to ... I wouldn't know who to try to talk to on the White House staff. Now, Kissinger, you might say, is a relevant person. There he is on record, elaborately, since 1960, with his theories of the indefinite, you see, flexible response, that means all the options available all at once, no consideration of limitations of military power, no consideration of the limitations of economic or industrial capability in the United States, no consideration of the consequences that this might have for the society. I'm dismayed to have to say to you that my present understanding is I have no address in the White House or in the Executive offices today. I think that, in the foreseeable future, some members of the Congress may have the wit and the will to try to take a fresh view of the essential security problem of the United States in the present kind of world, and may initiate discussion on these matters. That's about as far as it goes. I take a very dim view of the possibilities of men who have grown up in the pre-nuclear era changing their perspective. Generals, cadets in military institutes, have always been trained to win wars. How far have you gone in your programs in this instance to at least raise the question, are there restrictions on the traditional concept of the wielding of military power to win wars that come from the new era of military power? Is that question raised anywhere?

It should be raised in a lot of places. But what can one expect of the men who grew up, for example, who grew up in the pre-nuclear era, who knew, who knew as much as they knew how to breathe, that it's their task to win a war, that it's their task to have superiority, superiority in weapons, superiority in forces, superiority in tactics, superiority in knowledge, so they look for superiority, on the assumption that superiority is the winning position. That's almost obvious, isn't it — superiority is the winning position. But that can produce results, in the new era, that are unanticipated in the older understanding. For example, in Chapter 5 of this book, I laid out a speculation — I think it's better than a speculation, I'll call it that for now — on how the Cuban missile crisis happened. May I report to you that in the White House there was a sustained, to this day, inability to formulate a reason as to why the Russians tried to put missiles into Cuba. Why? A Russian once told me, when I asked him, he said, ah, that Kruschev, he was a wild man. He was a wild man, given to momentary ideas. I told this Russian that I didn't believe him, that even in the USSR, big decisions of that sort are never made by one man, and that many men are involved. Now, I formulated a theory of the Cuban missile crisis, and here's the theory. There was a point between June and August, 1962 — remember, the Cuban missile crisis was in October, 1962 — between June and August, 1962, the theory says, that there was a meeting or something equivalent to a meeting of a Russian general staff, and that at this meeting they were confronted by the following: someone said, gentlemen, we no longer have a nuclear deterrent force, our nuclear deterrent is blown. Why is it blown? For the following reasons. These are reasons that he could offer them. One, the United States, to their knowledge, had been overflying the USSR with the U-2 and subsequently with the Samos satellites, and knew the geographic coordinates of the Soviet ICBM system. Second, that the US through information gleaned from Colonel Oleg Penkovski, the Russian intelligence colonel who defected, and who worked for about a year and half as an American agent, shipping out 5000 frames of microfilm and a multiple of that in terms of information in meetings outside the USSR, and who was privy to the top security information of the USSR, and who was a member of the ruling

elite family group — his father-in-law was a marshal — and who was a graduate of the Soviet missile school, first in his class, and who thereby could give the United States full information on the technology of Soviet missiles and certainly on the strategies for their use. And furthermore, this Russian could have said to his colleagues, the United States has a number of missiles in place equal to or a multiple of the then-existing Soviet ICBM force, and finally he could point out that certain American officers, not to mention political thinkers, have speculated and some advocated publicly the possibility of a first strike. To which he might then have summed up and said, not only is that a speculation, there is now the full capability for doing that. In this understanding, we no longer have a competent nuclear deterrent force. And he would make that speech at that time because Penkovski was then picked up, that is to say, he could walk into his colleagues and say, what Penkovski knows the government of the United States knows — and that alone would have been a shattering confrontation. From which ordinary understanding would lead him to infer that it was of the highest importance that the Soviet Union acquire an increment of nuclear threat capability vis-a-vis the United States at all possible speed. Ideally, that this should be done by placing missiles already in existence in a place that was militarily secure, preferably under Soviet political influence, preferably able to outflank the US early warning system, preferably with a short flight time to the United States, and preferably in a place where they would precisely be visible once in place, and being visible would mean being credible as a threat. Hence Cuba. And if you tried to play with an estimate of the logistics of making that move with existing missile battalions involved, then you can see how it's plausible within the period of a relatively few weeks to do the necessary work that was being done. Now, I give you that speculation for one reason. Because each of these moves by the United States — getting the information of where the Russian missiles were, getting this knowledge from Penkovski, having a large missile force that was numerically way in excess of theirs— could, piece by piece, activity by activity, look like a success. Something was presumably being gained by every one of these moves. The net effect, in this understanding,

was very well to frighten Russian leaders and military men, who certainly included men of competence, of imagination, of devotion to their country, and to frighten them to the point of feeling that they had to take what was by Russian military doctrine an unprecedented risk, and that's what they did. That was an act contrary to their own manuals, contrary to what they teach their officers, contrary to their own doctrine. So that could be an act explained only as a response to some unprecedented situation of overriding importance. Now, in fact, in this chain of reasoning, without laying it out in any other way, there's only one thing missing out of the data — that is the minutes of the meeting of the Soviet marshals. You see, the inputs into that speculative meeting are all there, verifiable, the outputs are all there. Now, what I'm saying is that that could very well have happened in that way, and until someone produces a better explanation of why the Russians moved into Cuba, that's the one I'm going to be prepared to entertain. But the consequences are clear for the meaning of striving for superiority.

Q: Professor Melman, don't you think that, just as in this theory you have over the Cuban missile crisis ... (phrase incomprehensible) ... one country feeling that it's inadequate ... (phrase incomprehensible) ... don't you think that such a drastic measure as a fifty-some-billion-dollar cut in, assuming that we continue the same level of defense expenditure, don't you think that sort of might cause the Russians to think they might be able to make an attempt on us without having to actually incur a level of damage that would be unacceptable, such a drastic change like this.

Melman: Suppose no enlargement were made on the present US delivery systems, right? Suppose it stays intact, untouched? Then remember that of the intercontinental delivery vehicles now in hand, there are 4,206 — that's the way it comes out, in the official data — nuclear warheads — that means ICBMs including Minuteman, Polaris, and what can be delivered by B-52s. Now, that doesn't take into account what can come from carriers, doesn't take into account shorter-range missiles, doesn't take into account what can come

by plane from other places. As against this 4,206 US nuclear warheads deliverable in that way, there are 156 cities in the USSR of a population 100,000 or more. Now suppose these delivery systems are in being, for they're there. Those proposals don't involve a termination or even a reduction. Suppose you say that operationally — well, there can be accidents, there can be failure, there can be whatever source of failure — suppose you allow 50% attrition. What multiple is that of 156? We have long, many of us, seen military matters in the prenuclear way, where an additional bullet, an additional pistol, an additional rifle, may have meant something. That era has changed. See for yourself. I once met, a couple of months ago, with a group of industrial management men, and I laid out a calculation of our delivery capability, Russian delivery capability, what this might mean by one reckoning, our overkill on them, their overkill on us. OK. So I asked them, fine, so we have the drop on them, say X times, and they have the drop on us X over 2. I said, does it make a difference? So they said no, it doesn't make a difference. Then I turned to them and I said, now suppose, suppose we had the Russian nuclear system and they had ours, would that make a difference? And I'm going to leave that as a question. Would that make a difference. You just think about it — that is the question

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