THE ECONOMICS OF NATIONAL PRIORITIES

HEARINGS

BEFORE THE

SUBCOMMITTEE ON PRIORITIES AND ECONOMY IN GOVERNMENT

OF THE

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MONDAY, AUGUST 9, 1971

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON PRIORITIES AND
ECONOMY IN GOVERNMENT OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10 a.m., in room 1202, New Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Also present: Loughlin F. McHugh, senior economist; Richard F. Kaufman and Courtenay M. Slater, economists; and Walter B. Laessig, economist for the minority.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

Chairman PROXMIRE. The subcommittee will come to order.

Today the Subcommittee on Priorities and Economy in Government resumes its annual hearings on national priorities.

The quickest way to gain an insight into how Americans order their priorities is through an examination of the Federal budget, and even a cursory look at the budget reveals the major influences of national security.

The question we want to investigate this week is whether we are spending too much or too little for national security. One way to search for an answer is to compare our own defense programs with the external threats to our security. These threats are perceived to emanate principally from the Soviet Union and the People's Republic of China.

In a perfect world of statistical records it would be a relatively easy task to measure U.S. military expenditures against those of our potential adversaries and to compare military force levels and military capabilities. Unfortunately, the information that would be necessary to do this is not readily available.

Some of us in Congress have serious problems with the data on U.S. military expenditures. In our current annual report, the Joint Economic Committee raised important questions about the presentation of the defense budget. It was the view of the committee, briefly, that the figures for defense outlays as presented in the Federal budget do not fairly reflect the total costs to the American taxpayers of national security.

But the figures that are made available by our Government are infinitely superior to the figures made available by the Governments of the Soviet Union and the People's Republic of China. Military

outlays and the details of defense programs in those countries are shrouded in secrecy and there appears to be no way to come to any definitive conclusions about their military establishments.

Yet, if our knowledge is not what we would like it to be, it is considerable. From a variety of sources—experts in their respective fields—are able to analyze the Soviet and Chinese economies. And there is more known about them than some officials would like Congress or the public to believe.

We know, for example, that the Russian economy is roughly one-half the size of our own. We also know that over the long term the military capacity of any nation is largely determined by its overall economic capacity. A weak economy will ultimately lead to a weak military.

We also know something about the international environment. Relations between nations change over time and the relations between the United States and the Soviet Union are clearly not the same today as they were when the cold war began. Do the changes represent new dangers to U.S. security interests or new opportunities? Have international tensions between the two superpowers increased or diminished in recent years? If there are new opportunities for reducing international tensions, if our relations with Russia have eased, how should the defense budget reflect these shifts? Is the defense budget contributing unnecessarily to the arms race?

These are some of the questions we hope to get at this morning. Fortunately, we have as our first witness one of America's most eminent statesmen, W. Averell Harriman. Rather than list his many offices and honors, I will point out that Mr. Harriman was the architect of the Nuclear Test Ban Treaty in the early 1960's. He was not only responsible in large measure for negotiating this treaty, he also played an important part in convincing Congress and the Nation to accept it. In other words, without Mr. Harriman there probably would not have been a nuclear test ban treaty. In my judgment, this agreement was the most notable achievement in controlling the arms race and in reducing international tensions in many years. In fact, it has not been duplicated, and one reason might very well be the absence at the moment of Mr. Harriman from public service.

I am, therefore, honored to have you here as our leadoff witness and in behalf of the subcommittee I extend to you our welcome and gratitude for past services rendered to the Nation. You have submitted a statement, and you can proceed with your introductory remarks in any way you wish.

STATEMENT OF W. AVERELL HARRIMAN, FORMER U.S. AMBASSADOR AND FORMER GOVERNOR OF NEW YORK

Mr. HARRIMAN. Thank you, Mr. Chairman.

I appreciate greatly your invitation to testify before this Subcommittee on Priorities and Economy in Government of the Joint Economic Committee. You suggest that I might discuss the workings of the Soviet system and factors shaping their decisions as to the division of resources among competing claims. You also ask about what Soviet reaction might be to alternative lines of action on our part.

These are very broad subjects and can hardly be dealt with adequately in a brief statement but let me say that of prime importance is that we understand that there have been far-reaching changes since the time of Stalin and even of Khrushchev in the character of the Soviet threat, the influences within the Soviet leadership on decision-making and indeed the Soviet society itself. It is nonsense and, in fact, dangerous to talk and act in the same manner as we did then.

In the immediate postwar period the possibility of a Communist takeover in Western Europe was a real threat. At that time Stalin was expanding his control of Eastern Germany, and it was quite clear that he had in mind the development of the Communist Party in Italy and France, and if it had not been for the actions of the United States at that time and NATO, I am ready to say that there would have been a very good chance of Western Europe being, if not dominated, strongly under Communist influence.

Today, this threat no longer exists. Western Europeans are our strongest allies. They are more productive, more prosperous and more unified than ever.

Clear evidence of the change in the situation is the current negotiation over West Berlin. Perhaps the most acute and dangerous postwar problem has been our exposed position there.

Stalin's blockade of West Berlin in 1948 was relieved only by the American and British airlift. Khrushchev boasted to me in 1959 that West Berlin was so vulnerable that he could put pressure on us there whenever he wished. He threatened to sign a peace treaty with East Germany which he claimed would end our rights in Berlin. He asserted:

> Your generals talk of maintaining your position in Berlin with force. That is bluff. If you send in tanks they will burn and make no mistake about it. If you want war you can have it, but remember it will be your war. Our rockets will fly automatically.

In 1961, in the face of Khrushchev's threats against West Berlin, President Kennedy mobilized a part of our reserves and increased our forces in West Berlin.

Now a decade later negotiations are in process between all concerned on an agreement on West Berlin which would end the threat. Uninhibited civilian access would be assured and a compromise reached on the relationship of West Berlin to the Federal Republic of Germany. Encouraging statements have been made by Mr. Brezhnev and Chancellor Brandt has expressed the expectation of an agreement by autumn. In any event, the point I want to emphasize is the fact that serious discussions are taking place with give and take on both sides for an agreement which would remove the hot point of East-West conflict in Europe.

Furthermore, the ratification of the treaties which Chancellor Brandt has negotiated with Moscow and Warsaw will follow a satisfactory agreement on West Berlin. The Warsaw Treaty will finally settle the Oder-Neisse line as the German-Polish border, which could have been an explosive situation.

The Poles, whose fears of German aggression are thereby reduced, will have less reason to cling to Moscow for protection and will feel freer to look to the West, which most Poles want to do.

Also agreement on Berlin would open the way for other potentially constructive moves such as a European Security Conference. With

Mr. Brezhnev's recent initiative proposing mutual reduction of forces in Central Europe, negotiations on this subject can now, at last, take place. Agreement on mutual balanced reduction of forces is the soundest way for us to return a substantial number of our men now stationed in Europe, and discussions on this subject should be pressed vigorously.

If these matters are energetically and wisely pursued, there is a real chance of easing tensions in Europe—the very area where the cold war started.

Even though agreement may now be reached on Berlin, on SALT and perhaps in other specific areas, we must recognize that there are still certain irreconcilable ideological differences between us and the Kremlin preventing an overall detente. The Kremlin still wants to see the expansion of Communist dictatorships wherever possible, whereas we believe our interest and security are best served by governments responsive to the will of the people. This fact, however, should not prevent us from coming to agreements in areas where we find mutual interests. Each agreement makes others easier to reach.

Now, as to the future: There has been, and I am satisfied there will continue to be, evolution within the Soviet Union. This evolution can be favorably affected by our own attitudes and actions. The changes since Stalin's time are marked. Khrushchev told me that Stalin had become increasingly suspicious in the later years of his life, trusted no one and that when the Kremlin leaders were called to his office they did not know whether they would ever see their families again. When Stalin died they were determined not to permit the secret police to be controlled by any one man. To achieve this Beria was shot. He was the last Kremlin leader to be executed. Others including Khrushchev himself have been retired but in a more civilized manner.

The Soviet leaders do not want to return to the arbitrary ruthlessness of Stalin which they fear might be used against themselves. While controls of public dissent are still rigid and, in fact, after Czechoslovakia, were tightened, they are not as indiscriminate or as arbitrary as they used to be. Individuals are no longer dragged out of their homes at night to disappear without trace. There are hearings, even though inadequate in our view, and sentences are publicized.

Under Stalin, discussion in the Politburo was permitted until he had made a decision; after that, opposition risked a sentence to Siberia if not execution. Now, decisions are made by a group rather than one man and are more subject to continuing review. This review includes allocation of resources in light of the appraisal of any new factors such as American statements and actions.

I believe conditions within the Soviet Union, on balance, are improving. Gradually the pressure by the Russian people for greater freedom will increase and I do not believe the Kremlin will be able permanently to resist them. In spite of the setback in Czechoslovakia and the subsequent tightening of restrictions, there appears to be a continued determination by some intellectuals to resist. While the influence of these intellectuals may not be great, developments are nonetheless significant.

Just last week, Mr. Chairman, there were newspaper reports of an unusual article published in the Soviet Union by the distinguished Soviet physicist, Mr. Pyotr Kapitsa, on social decay resulting from

wealth, assured income, and leisure time in the advanced industrial countries including by implication the Soviet Union. He advocated more liberal education that would produce independent-minded, creative thinkers. From the account, the article sounded as if it might have been written by an American.

If I may, Mr. Chairman, I would like to put the report of this article from the New York Times in the record.

Chairman PROXMIRE. Without objection we will put it in the record at this point.

(The article referred to follows:)

[From the New York Times, Aug. 2, 1971]

RUSSIAN SEES THREAT IN LEISURE

(By Bernard Gwertzman)

Moscow, August 1.—Dr. Pyotr L. Kapitsa, the Soviet physicist, says civilization is threatened by the increase in wealth and leisure time in advanced industrial countries. He advocates a more liberal education that would turn out independent-minded, creative thinkers able to cope with the new life style of the future.

In an article in the monthly journal Voprosy Filosofii (Questions of Philosophy), Dr. Kapitsa warns that the technological revolution already has produced signs of social decay among youth in highly developed capitalist countries and he suggests, by implication, that the Soviet Union will not be immune to similar social problems.

He finds that the gloomy prognosis of Aldous Huxley in "Brave New World" is coming true in some capitalist countries. People, with free time and secure financial situations, have turned, he said, to sex, narcotics and cheap entertainment to keep busy.

YOUTH LACKS INCENTIVE

"Young people, not having to fear for tomorrow, lack the necessity to fight for their existence and this gives rise to a situation in which they face no problems that require their strength and will," he says. "All this, taken together, deprives the life of young people of any permanent inner substance.

"Different forms of narcotics, which are more and more common among young people as a way of escaping reality, of course, provide only temporary escape. But, as is known, they lead to a breakdown in the nervous system and deepen spiritual depression. Crime is on the rise among young people."

Dr. Kapitsa, who is 77, has been regarded as a liberal intellectual, who has objected to narrow aspects of Soviet ideology. He has publicly supported the views of his colleague, Andrei D. Sakharov, who has called for closer cooperation between the United States and the Soviet Union to solve the world's problems.

COMMON PROBLEMS SEEN

The latest article by Dr. Kapitsa, originally read as a speech in Hungary last year, is unusual in the Soviet context because it does not contend that the problems faced by the United States are unique. In effect, he endorses the view of many scientists that all developed industrial societies have common problems, regardless of social system. This is loosely known as the "theory of convergence."

"It turns out that society is still not prepared to make profitable use of the material wealth and leisure time with which it has been endowed by the scientific-technological revolution," he said.

He added that some Western sociologists already find signs of social decay in developed capitalist countries, see no way out of the situation and have come to the conclusion that mankind is in the final cycle of modern civilization.

"It is stated that an inability to make use of wealth and leisure time can become no less of a danger to man than death from a nuclear world war," he said.

He called such conclusions "exaggerated and premature," and he suggested that the way out was to give people, especially young people, a sense of existence, to instill in them an interest in solving social problems, to educate them with spiritual qualities necessary for an understanding of science and art."

Dr. Kapitsa said the crucial problem in education was to bring out the creative instinct in man. Everything he does would then be more interesting and better for society, he added, criticizing the utilitarian approach to education aimed at making a person effective only in a particular area of activity.

"I think, and life demonstrates, that people who are most pleased with their work are those in creative endeavors, such as scientists, writers, artists, actors, directors, etc.," he said. "It is well known that people in these occupations do not usually divide their time into working and nonworking segments. They live for their occupation and find their 'sense of existence' in their work.

"We have observed that any kind of work can be made exciting and interesting if there is an element of creativity in it," he said.

He said that work on modern production lines was "boring and uninteresting," and the problem was therefore to make leisure time as creative as possible so that man "will enjoy it and make wise use of it."

Usefulness of History

Dr. Kapitsa urged that a higher education be made universal because only with suficient background can people sufficiently understand what is going on around them.

As an example, he noted that many people spend their leisure time traveling. But, he added, this can be made more interesting if the traveler is trained, say, in history.

"He derives much greater pleasure if he can independently interpret what he sees and compare it with the history of other countries," Dr. Kapitsa said.

"The problem before education is therefore not only to provide man with the broad knowledge necessary to become a useful citizen, but to develop the independence of thought needed to acquire a creative understanding of the world around him."

Dr. Kapitsa's view on the need for universal higher education contrasts with the conservative opinion that too many Soviet children are seeking higher education for prestige and too few are prepared to study the skills needed for industrial work.

The physicist suggested reforms in education, with more emphasis on problem-solving to develop independent thought and more use of prominent scholars as high-school instructors.

Mr. HARRIMAN. We are apt to look at all of the bad circumstances, sir, and we do not look at some of the more encouraging.

His colleague, Andre Sakharov, has called for closer cooperation between the United States and the Soviet Union, particularly in science, to help solve world problems. If we can find more areas in which to cooperate, tendencies towards confrontation and tensions may well recede.

Certainly one of the areas in which the United States and the Soviet Union could cooperate for the betterment of mankind is ecology. This subject came up in a talk with Chairman Kosygin when I accompanied Senator Muskie to Moscow in January. The Senator discussed with him national and international environmental problems. Mr. Kosygin showed detailed knowledge and keen interest in the serious Russian ecological problems, such as the reduced flow of the Volga River and the consequent lowering of the level of the Caspian Sea, and he told us of some of the actions they were taking to overcome them.

They have very ambitious plans to direct the flow of certain rivers from north to south to increase the flow into the Volga River. These are west of the Ural Mountains and do not include the enormous projects in Siberia, which are not now under consideration. But he did not appear to have given much consideration to the international problems or the opportunities for useful United States-Soviet cooperation.

Since that time, the Soviets have participated in an international conference on ecology in Prague and next year will take part in the major meeting in Stockholm. In his report to the recent Communist Party Conference, Mr. Breshnev announced the readiness of the Soviet Union "to participate together with other states concerned in settling problems like the conservation of the environment."

In my talks with Chairman Kosygin in 1965, the question of our mutual defense expenditures came up and the diversion they caused from other more beneficial uses. He complained bitterly that the increase in our budget had forced them to maintain theirs. Over the years their actions have affected our decisions on military expenditures and it seems clear that our actions have similarly affected theirs.

In this connection it is crucial to recognize that Soviet leadership is not now monolithic. The Soviet Union, like the United States, has a spectrum of opinions from hard liners to the more reasonable who believe in devoting more resources to urgent domestic needs rather than for arms or foreign ventures. Our actions should be designed to encourage the more reasonable Soviet attitudes.

Bellicose statements and actions in either country give ammunition to the hard liners in the other country. It is important for both sides to deescalate their rhetoric as well as deeds. In this, surely, we should not be afraid to take the lead. We are the more productive, the more mature, the more sophisticated nation. The Soviets have been fearful that an initiative on their part would be construed as a sign of weakness. And I may say that the statements that emanate from some parts of our Government when they take some initiative often claim that it is a sign of weakness, and these claims on our part tend to increase the sensitivity of the Soviet leaders.

Our defense budget obviously plays a major role in Soviet consideration of their budget. They are not going to accept significant nuclear inferiority and will make whatever economic sacrifices are necessary. Thus the United States was correct in superceding the concept that we must have nuclear "superiority" with acceptance of the idea of "sufficiency." It is apparent that while either side can, by increasing its nuclear expenditures, force the other side to respond, neither side can gain any significant advantage.

Although the Soviets are reluctant to take the initiative in public, I have found them quite ready to talk frankly in private. In my talks with Chairman Kosygin in 1965, he stated bluntly that while the United States and the Soviet Union were the preponderant nuclear powers, it was our obligation to come to agreements to reduce the danger of nuclear war. He specifically suggested that the next step should be a proliferation treaty—subsequently, as you know, agreed to—second, a comprehensive test ban including underground testing; third, reduction in nuclear arms; last, he emphasized the desirability of mutual reduction in defense budgets. This could be achieved, he thought, by mutual example.

We are now engaged in negotiations for restraint in nuclear arms. Unfortunately, during the period of these lengthy discussions both sides have escalated the arms race at an unusually high rate. The Soviets have increased their deployment of ICBM's including the giant SS9's and have continued the testing of multiple warheads. These are fixed; they are not individually directed as ours are.

The United States, for its part, has gone ahead with the development and deployment of its MIRV's. No wonder the talks have taken so long and now only a limited agreement appears in sight and not a comprehensive one, which I believe was possible in 1968 and 1969.

It is important that we attempt to look at this subject the way it appears to the other side. We emphasize that the Sovies have substantially increased their ICBM capability in numbers and particularly in the weight of their warheads. For their part, I have been told directly that the Soviets consider our MIRV breakthrough as giving us the potential of multiplying our warheads fourfold. Both sides tend to exaggerate the other's increasing efforts in the race. All this at the very moment we are engaged in negotiating restraint.

How much wiser it would have been if President Kennedy's example had been followed before talks were undertaken. You will recall, sir, that on June 10, 1963, in a conciliatory speech delivered at American University, President Kennedy announced that we would refrain from all nuclear testing as long as the Soviets would do the same. In spite of the tensions then existing, this led Khrushchev to respond favorably. The limited test ban was negotiated, ratified by the Senate and subscribed to by over 100 countries before the end of the summer. I would like at this point, Mr. Chairman, to point to another good example, in addition to President Kennedy's, which was the action of President Nixon in connection with germ warfare. He announced that the United States would enter into an agreement banning germ warfare and proceeded to destroy our stockpile. This step undoubtedly contributed to the United States-Soviet agreement on the joint draft treaty banning germ warfare announced only a day or two ago.

Now, if President Nixon had made the announcement I suggest in regard to MIRV's and ABM's, I believe the Soviets would have responded at that time. In the first part of 1969 President Nixon could well have announced, as he was urged to do, that we would not test or deploy any further sophisticated nuclear weapons (MIRV's or ABM's) providing the Soviets exercised parallel restraint.

Since we now have achieved a MIRV breakthrough it is far more difficult. However, experts in the field still propose that a mutual freeze for a period of time would be beneficial. And in that connection, an agreement would be important to limit testing, not nuclear testing, but other testing, which increases and improves our MIRV's and ABM's on both sides.

In any event, let us hope that at least a useful limited first step will come out of the present talks. I would then hope that a thorough exploration of the resulting situation would be made in which Congress would be included. Restraint in nuclear arms not only gives great promise for the saving of vast sums of unnecessary expenditures, but can contribute substantially to the reduction of the danger of nuclear disaster.

In closing, I would like to underline that Soviet military power is not, as some would think, the principle source today of Communist expansion.

The monolithic structure of international communism has been shattered not only by the rupture between Peking and Moscow but by Tito and by the increasing independence of Communist Parties in different countries. It is noteworthy that both the Italian and

French Communist Parties criticized the Soviet Union for its invasion of Czechoslovakia in 1968. There are numerous Communist activities in many parts of the world that threaten independent governments.

There is much that we can do in the nonmilitary field to help those governments and peoples that want to resist Communist penetration and ask for our assistance. Certainly we can continue with wise policies to offer a helping hand for social progress through technical and financial assistance, preferably through international organizations. Our influence in the world would be enhanced if the tragic and divisive war in Vietnam is brought to a close. A small fraction of its continuing cost will do much, if appropriately applied, to help in important areas now being neglected such as Latin America.

The road ahead is not easy. The Soviet Union remains a highly suspicious totalitarian state with aggressive influences. Yet if we take the initiative, exercise patience and good judgment, I am more hopeful now than in the past that constructive agreements can be reached which will reduce the need for vast military expenditures and make progress toward a more stable world.

Mr. Chairman, if I may, I would like to congratulate you and your committee for exploring this subject and bringing it to public attention, as I feel it is vitually important that we reappraise the dangers and reappraise what actions we should take against them. I decry the call for vast military expenditures as a way to increase our security. In my judgment, sir, they reduce our security.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you, Mr. Harriman, very, very much. I think that the statement is most useful. It is a very constructive and positive way to begin these hearings on our economic priorities and the extent to which it is wise and prudent for us to shift our resources to a limited extent from the military area into other areas.

You raise the point, I think, which is rarely given much emphasis in the Congress, and that is the reaction by the Soviet Union to military buildup on our part. You point out that they are much more sensitive to this than perhaps we have recognized. Rarely in a debate on the floor, rarely in a discussion in committee, it seems to me, is this point raised. We almost always discuss our military expenditures in terms of efficiency, whether or not they will work, whether or not they can be justified in terms of giving us greater power and greater capability of retaliation, much greater capability of defense, and I cannot recall a speech on the floor of the Senate in which even a part of the emphasis was given to this point which you raise so wisely and so well.

Would you say that this would apply, you put so much of your emphasis on the nuclear balance, on the conventional forces to the extent we build our conventional forces?

Mr. HARRIMAN. I think that in this respect all of the men I know who are expert in this field, agree that there is a balance in nuclear capabilities at the present time. It is so enormous, and Mr. Kosygin spoke of the overkill capacity on both sides, that we can afford to draw a long breath, and to avoid expansion, waiting to see what the other side does. I would much rather see the President announce that we were going to exercise restraint and demand that the other side do the same. I think they would respond.

But, if we go ahead and every time we announce that we are going ahead and expanding they will also expand. Take this idea, for instance, of ABM's as a bargaining chip. It is just the reverse; it reduces our opportunities for coming to a reasonable agreement.

Now, I speak of the nuclear area because that is the one that is under consideration now and I do not think it is being well handled, and I am satisfied that whatever comes out of it will be far less than it could have been.

Now, as far as the other expenditures are concerned, I have not had an opportunity to review the different expenditures. I think it is unnecessary for us to move ahead on certain new weapons programs such as the B–1. That should be set aside. I see no reason for it. We have nuclear capability in other fields and we do not need it. That, it seems to me, comes from the competition between the three services, in order that each one have a major role. We still have an adequate strategic capability in the air.

I am not in a position to urge any specific reduction because I have not studied the budget well enough. I emphasize the importance of coming to an agreement with the Soviets in Europe on a mutual, balanced reduction in forces. It seems to me we are taking a very reluctant view of that. For 3 years, Mr. Chairman, we have been urging that there be a discussion of the mutual reduction of forces, and now Mr. Brezhnev says that he is ready to do it, and we say: Oh, it is going to take us until the end of the year to make up our minds. What have we been doing in the last 3 years? Are we to go forward with this? It seems to me it is perfectly clear that the subject of mutual reduction is in the hands of the technicians, and to arrive at the decision of a reduction of forces it has to be done on a political basis. It is impossible to ask the military just where these reductions can take place. It has got to be done on an overall basis. This is typical of the manner in which the principal influences in our government of the military plays a leading role. I do not in any way try to lessen the enormous skill and importance of our military, but they should not be involved in the political decisions.

Perhaps I am taking too long in answering your question, sir, but I am not in a position to point to the areas beyond what I have said in which savings can be made. At the same time I am for offering, by our example, and if necessary, by discussions, for a mutual reduction in the Defense budget. Now, that cannot be done, until we get rid of this tragic war in Vietnam that is dragging on for no good reason. There have been reasonable offers made by the other side for safe withdrawal of our troops and for return of our prisoners. And now we are fighting, according to the President, to give the South Vietnamese a reasonable chance. I think the Congress and the people have a right to know what he means by that "reasonable chance." We have not been enlightened on the subject.

In order to have a real reduction in military expenditures we have got to end this tragic war in Vietnam and we are impeded until we do in making a very major reduction and asking the other side to make similiar reductions.

Chairman PROXMIRE. Yes. What I am trying to get at, Mr. Harriman, is this: The negotiations, of course, are entirely, as they have to be, in the hands of the Executive. Congress cannot negotiate. Some

Members of the Congress with great power and so forth occasionally do this, but usually this is a function, as it must be, of the President of the United States.

On the other hand, we do have a considerable amount of discretion and constitutional authority and responsibility with respect to the amount and level of expenditures. What I am getting at is aside and apart from the negotiations aspect which our President is engaged in in the SALT talks, and we hope, beginning in other areas. Is it wise, in your judgment, for the Congress, if not to make deep cuts, at least to hold down military spending, and can we do this in good conscience with the feeling that we are not depriving the President of the capability of negotiating constraint?

Mr. HARRIMAN. Well, let me say first that I want to underline the importance of ending the war in Vietnam. This is the way the most immediate cut can be made. The Congress can take action——

Chairman PROXMIRE. I am going to come to that later.

Mr. HARRIMAN (continuing). In compelling the President in this area by withholding funds. The Senate has given consideration to legislation of that kind which did not get the support of the House. But, I think that battle should be continued and I hope that the Senate and the House will continue to consider new amendments which will take funds away from the President. There is no reason why this war cannot be brought to a conclusion. And, I think that is the first step, sir, and of vital importance.

There may be other steps, such as refusing to give appropriations for the B–1. Granted, it is relatively small, but I think that is a subject which can be specifically dealt with.

I think the point is to reduce military expenditures, but it has got to be done in an orderly way, and it should not be just slashed. As long as we are continuing this war, expenditures both in the field and at home have got to be continued.

And the Congress, if it wants to have an influence, has got to force the President to stop this war. The Congress has the responsibility, in a few instances, to declare war, and by control of the purse, has it to stop this war. I think this war should be stopped, and that is the major area in which the Congress can exert its influence.

Now, let me say this, sir, about the Congress' participation in the decision. I do want to point to the time when NATO was developed and the NATO Treaty. Senator Vandenburg made the first speech. He was then the chairman of the Foreign Relations Committee of the Senate. He was a Republican with a Democratic President. There was close cooperation. When there was an international meeting, Members of the Senate and sometimes the House participated. I think that practice is a very good one. We do it in connection with the United Nations, but we do not do it any more in connection with other major discussions. I think it would be quite healthy to have congressional representation in Helsinki at the present time to be able to get some feel of what is going on. We do not know what is going on, Mr. Chairman. I also think the Congress has a right to find out why it is taking so long to start discussions about reduction of forces in Europe.

I was opposed to the Mansfield amendment to arbitrarily force a reduction of our forces in Europe. I think we can come to an agree-

ment on mutual reduction, so I think it is not the time to do this unilaterally. But this administration does not seem to want to take advantage of the opportunities. So I think the Congress can best use its influence on the specific situations rather than operate arbitrarily in slashing the military budget.

I am frank to say that I do not know enough about the details to make any recommendations except perhaps along the lines I have suggested.

Chairman PROXMIRE. Mr. Harriman, you perhaps are more intimately and more closely connected with our relationship with the Soviet Union than any other American over the past 25 or 30 years, and you mentioned three far-reaching changes in the Soviet Union in the past several years: One is the character of the Soviet threat; and second is the Soviet decisionmaking process; and the third is the Soviet society.

Can you tell us whether, in your judgment, our Government, by its policies and actions, has given sufficient weight to those changes. Are our attitudes and behavior toward the Soviet Union significantly different than they were 5 or 10 or 15 years ago?

Mr. HARRIMAN. Well, I am rather hesitant to make sweeping accusations. I must confess that I was rather encouraged when the President suggested we were going to move to a period of negotiation rather than confrontation. I thought that he minimized what had been done in previous administrations in the negotiations field. But I must confess I do not think this administration has moved ahead as vigorously as it could in the negotiations field, nor avoided confrontation. I think I would have to say this particularly because of the extraordinary influence that the Pentagon seems to have in the policymaking structure.

Now, every time a statement comes out of the Pentagon which is provocative I can assure you, sir, that it has an adverse influence in the Soviet Union. I am satisfied that I am right about that. I have talked to enough people and I think it is rather easy to understand this since we see that whenever someone in the Russian side makes a provocative statement that gives support for the hard-liners in our own country.

So, I think that we are missing opportunities today, and I have mentioned them, both in the area that I have referred to in SALT and also in not vigorously negotiating for reduction of forces in Europe.

I think, however, there are other areas, but I have not sufficient information to comment on them. The administration has not lived by, in my judgment, the promise that President Nixon gave of moving to an era of negotiation rather than confrontation.

Chairman PROXMIRE. What do you mean when you say the character of the Soviet threat has changed? Is the threat to our national security greater or less than it was, or has it just changed in form rather than in substance?

For example, you argue that there is now no threat to other Communist takeover in Western Europe.

Mr. HARRIMAN. That is correct, sir; but that does not mean that they may not——

Chairman PROXMIRE. What is the nature of this threat now in this country from the Soviet Union as compared to the past?

Mr. HARRIMAN. In fact, there is threat of Communist takeovers. We may see members of the Communist Party take positions in the Italian Government. That is possible. That does not mean, however, there will be a Communist takeover in Italy. I think the idea that every time Communists go into a government it means there is a Communist takeover, is a lot of nonsense.

But, the idea of a Communist takeover in Europe is now nonexistent. It was very real in the Stalin days. I tried to point that out in 1945. In July 1945, I congratulated Stalin at being in Berlin, and he said: "Czar Alexander got to Paris." It was quite obvious from what he said that he expected to get to Paris. And I think if it had not been for the initiatives of the United States, the Marshall plan, and NATO that we would have had a very strong Communist influence in Germany and France and it would have weakened the whole of Europe.

Now, when it comes to other areas of the world it is an extremely complicated problem. The military does play a role, but I am opposed—I am violently opposed to developing the idea that security comes only from military strength; it does not. We see Communist influence stimulated by the Soviets in varying fields. They help train, through Castro, the subversive terrorist groups that go into Latin America. In addition to which they support Communist Parties that attempt to develop popular fronts, as recently happened in Chile. It is the first time a popular front including a Communist Party has won an election in Latin America. It was an unfortunate event, in my opinion, but there is nothing we can do about it now that it has happened. I think we can help avoid reoccurrences by giving some assistance to the non-Communist groups that are struggling to end the social injustices which exist in many parts of the world.

I am afraid one of the casualties of the war in Vietnam is that it has tended to reduce interest in other activities. We talk about not wanting to have any more Vietnams, and public attention is directed from doing the sensible things in other areas.

I want to point out also that Communist Parties around the world are no longer monolithic. In many countries we find two Communist parties: those who are stimulated by Moscow and those who owe their allegiance to Peking. So, it is very hard to talk in generalities.

Chairman PROXMIRE. You also seem to imply that not only the groups that hold their allegiance to Moscow and those to Peking, but some Communist Parties operate on the basis of an autonomous, independent, and nationalistic view.

Mr. HARRIMAN. Yes; some are very strongly nationalistic. That is very strong in North Vietnam.

Chairman PROXMIRE. It seems to be true in Italy and it seems to be true in Yugoslavia.

Mr. HARRIMAN. Pardon me?

Chairman PROXMIRE. It seems to be true in Yugoslavia and Italy.

Mr. HARRIMAN. Yes. Certainly in Yugoslavia. In a sense Ho Chi Minh was a type of Titoist. It is not quite the same, but we have been fighting North Vietnam, rather than China. It was a complete misjudgment in thinking we were fighting Chinese Communist expansion when we have been fighting a Titoist type. It is different from Tito. Tito leaves his neighbors alone and the North Vietnamese want to re-

unite Vietnam by force. It is a somewhat different situation. But the idea that the outcome in Vietnam will be decisive in a wide sense just is not true. It has been proved not to be true. That people now restate it without any proof, is confusing to the public.

Now, there are other areas in which nationalism is a very important factor, but I do not want to minimize the fact that we do have a very strong interest, sir, in seeing and doing everything we can to support governments which are responsive to the will of the people. Our peace is more assured by that than any other method. It is very hard and difficult to get rid of Communist dictatorships, once they take hold of countries.

So, I believe we do have a real interest in helping countries that really want our help.

We were set back when Mr. Dulles announced that he considered neutrals as immoral. I do not think we have fully gotten over that position. We can have just as much security from countries that are neutral and nonaligned as we can from those that are lined up with us, and in some cases, even greater.

Chairman PROXMIRE. I take it, and I would try and generalize from your statement and your great emphasis that you put on the fact that we no longer face a united, monolithic threat, that the Soviet, the Communists, not the Soviets, but the Communist threat, is, in substance, less than it was 25 years ago. Is that it or did I go too far?

Mr. HARRIMAN. Well, I think it is very definitely less.

Chairman PROXMIRE. Very definitely less.

Mr. HARRIMAN. But at the same time I do not want to minimize how important I think it is to us to see the development of the world with governments responsive to the will of the people. Although the threat is substantially less, I do not think we ought to relax. I take as much exception to the old cold-war warriors as to those who now contend that all we have to do is show our affection for the Kremlin and everything will be all right. I think that is as dangerous as the old cold-war warriors. We have to pursue the middle course, but military might, sir, is not the way either.

Chairman PROXMIRE. Let me see if I can get at the middle course you mention. You mentioned the fact that Kosygin in 1965 complained bitterly to you that the increase in our defense budget had forced the Soviet Union to maintain theirs. In your judgment, did Mr. Kosygin have justification for his complaint?

Mr. HARRIMAN. Well, that was when we were building up our expenditures for the war in Vietnam. There seemed to have been some discussion prior to the Vietnamese war that we would hold our military budgets down, and then we expanded our budget at the time of the Vietnamese war, and that is what he was referring to. So, our military budget went up substantially at the time of our expansion of the military action.

Chairman PROXMIRE. Did I understand you to say that there was discussion between our Governments about holding military expenditures down?

Mr. HARRIMAN. There was some discussion at that time about holding our budgets down prior to Vietnam, and then I think I am right in saying that the announced reduction of the budget of the Soviets went down by a few hundred million rubles, and he complained that we had expanded ours in spite of their reducing theirs.

Now, this Vietnamese war affected the size of our budget and the expansion of our budget at that time, in 1965, was due to war, rather than other activities.

Chairman PROXMIRE. I see. You also say we ought to encourage more reasonable Soviet attitudes and that bellicose statements and actions in either country give ammunition to the hard-liner in the other country. Would you argue that the maintenance by the United States of wartime levels of military spending at the present time is a bellicose action?

Would an increase in military spending, in your opinion, influence the Soviet Union, cause them to increase their defense budget, and spark another round in the international arms race?

Mr. HARRIMAN. I would put it this way: I think you have to take it problem by problem. You can't attempt to deal in generalities. I say, any restraint on our part will lead to restraint on theirs. Mutual example is the right way to do it, and I think our restraint will lead to theirs.

On the other hand, they are moving into, as I say, the Mediterranean with their fleets, and at this time we cannot afford to reduce our fleet in the Mediterranean. We must wait and see what is developing in that area. I am not as concerned as some people are by the introduction of their ships in the Mediterranean. I expected it.

Stalin told me during the war that no country could be a great power without a great navy. Some people would say the Mediterranean is an American lake, which it is not; we must be sure that it does not become a Soviet lake. I think we have a real security interest in working with others concerned in seeing to it that the Mediterranean remains an open sea, open for everyone's travel. And until we know just what the Soviets are up to with their increased navy, this is not the time for us to slash our Navy heavily. But we ought not to get so excited about it as if it were something they had no right to do. We were concerned about their submarines coming into the Caribbean Sea, but the American public generally is not alert and alive to the fact that we have been sending our destroyers for many years into the Black Sea. It was a provocative move which did not do us any good. The fact that we did that, I think, I cannot be sure of it, but possibly encouraged the Russians to counter us by sending submarines into the Caribbean.

Now submarines in the Caribbean are far more dangerous to us than destroyers in the Black Sea are to them. Destroyers can be blotted out without the slightest difficulty. In the Caribbean submarines with nuclear capability are far more dangerous. We really have had the idea that we had the right to control the seas everywhere.

Now, I would not reduce the size of the 7th Fleet in the Pacific at this time. At this time I find many commonsense Asians gaining a great deal of reassurance from the 7th Fleet. But that does not mean we should land in Southeast Asia to fight a war on the Mainland of China. This is not the time for us, sir, to reduce the Navy, in my opinion. At the same time I do not think the threat from the Soviet Union is such that we should respond by calling for a very substantial increase, which I understand has been proposed using this as the excuse for it.

Chairman PROXMIRE. You see, here is the problem that puzzles us in the Congress. The Vietnam war has already been cut back substan-

tially. The amount of spending in Vietnam has been reduced from a marginal $26 billion above what we would have without Vietnam to about $13 billion or $12 billion and there has been no corresponding reduction in overall defense spending. As a matter of fact, the President has asked for obligational authority to spend $81 billion in this fiscal year. Congress has not acted on that request.

Now, it is true that with higher pay, with inflation and so forth, that some of that increase can be accounted for. But, recognizing the big reduction in Vietnam, and a substantial increase in obligational authority requested by the President, would you say that in your judgment that this might represent the kind of action by our Government if the Congress goes ahead and funds the defense budget fully, which the Kremlin would regard as bellicose or hard line, or do they look more at the specific areas where we are engaging in military buildups rather than the budget?

Mr. HARRIMAN. I think at the moment we have got to deal with it on an item-by-item basis, but what concerns me is the sums of money put in for new, more sophisticated weapons systems. I mentioned one of them which I think I know something about, and that is the B–1. The others I would want to reserve judgment on for study. I think that sort of thing is really quite provocative. I think you have got to do things in an orderly manner. The administration must stop this war and I am afraid there is nothing that has been said which gives me any encouragement that this war is going to stop, sir. When we talk about reducing American participation we are Vietnamizing the war. We are not trying to Vietnamize the peace. This war may go on for a long time, and I do honestly believe that the greatest influence the Congress can have toward reducing our military expenditures, and putting us in the position where we can take further steps is to exercise its control of the purse and to stop the Vietnamese war, and I would urge that that be given first attention.

Chairman PROXMIRE. Well, I agree wholeheartedly with that.

Mr. HARRIMAN. When that happens, sir, then it will be possible to view the situation as it then exists. A lot of things can be done by private conversations with the Soviets in terms of our mutual plans. We do not have to assume that because something happens that we do not like that it necessarily has to continue. If it was known that we were going to stop the war in Vietnam, we could then begin to talk about mutual reduction of budgets.

Now, people say that we cannot be sure of what their budget is. That is true, sir, but the budget is sufficiently open, and we can get sufficient information so that we can tell whether they are, by and large, living up to the main direction of reducing the budget. I am sorry to be so indefinite, but my knowledge of the details of our budget does not give me the right, really, to speak of the details of our budget, except in the matters of which I have knowledge.

Chairman PROXMIRE. I would like to ask you one other question, Mr. Harriman.

You have alluded to the very favorable effect that President Kennedy's initiative on suspending nuclear testing before the agreement was achieved, and how that created an atmosphere and made it possible to achieve the agreement, and it developed corresponding restraint on the side of the Soviet Union. It was a very constructive action, and I think in retrospect we can all agree that it worked very well.

You suggest that President Nixon might have suspended development of MIRV and ABM in 1969 on the same kind of basis.

Mr. HARRIMAN. Yes, sir.

Chairman PROXMIRE. Looking ahead, is there anything you feel that now we can do that would provide a corresponding initiative?

Mr. HARRIMAN. Those that I know who are expert in this field agree that there still is, although the opportunity is not as good as it was in the spring of 1969. We can propose limiting the testing; that is not only nuclear testing, although we ought to have a comprehensive test ban agreement. I am troubled because the Pentagon is now arguing that we should continue with underground testing in order to keep modern our nuclear arsenal—that is not a move toward real restraint. In addition, I am referring to other types of testing such as testing missiles for accuracy. I am told that if we can come to an agreement, or we might even offer to limit our testing if the other side did the same thing it would be useful.

We also can have a freeze on further deployment of nuclear weapons: ABM's and MIRV's. I cannot find words to express too strongly my opposition to this idea that we have to deploy ABM's in order to have bargaining chips at the table, sir. It is exactly the reverse: When we move ahead they are going to move ahead.

Now, I am not defending the Soviets, but there are influences in the Pentagon who sincerely believe that our security is best preserved by continuing the arms race in the nuclear field. Now, I think it seems fairly clear that it is a wise policy for our Nation to propose mutual restraint.

This is in partial answer to your question, but I do believe that a reversal of policy in regard to testing is necessary. There is no reason why we should continue to deploy MIRV's at the present time. I am told that we have adequate balance. If the other side does not exercise the same restraint we can go ahead again at a future time. We are moving ahead before it is necessary for us to move ahead, and that is causing the other, or may be causing the other side to do the same. It is very hard for me to condemn ourselves for trying to defend against the Soviet Union, but there is evidence that the expansion of our nuclear capability has led the other side to doing the same.

Now, it may be vice versa, but one has to accept the fact that we are taking steps to expand our capability, and then we are complaining because the other side does the same. I think it would be very important for this administration to exercise some restraint and see what the other side would do. In fact, it might make the other side exercise the same restraint, and it does seem to me that in our negotiations in the SALT area we have lost a great opportunity by joining in an arms race at a very time when we were supposed to be trying to exercise restraint. It is very troublesome that the Pentagon has so much influence on our political decisions. I have much and great respect for the Pentagon and for what they have done in the development of our weapons and for their skills, but there are areas in which their voice should not be the predominant one. And I am afraid in this administration they are exercising too great an influence.

Chairman PROXMIRE. Mr. Harriman, thank you very, very much. I do hope that you will stay at the table, if you would. We have three distinguished witnesses who are about to appear, and it would be

helpful if you could remain at the table and take part in the dialog after their presentation.

Mr. HARRIMAN. I will be happy to, sir, and I again congratulate you for talking about this subject. I think the Congress can do a great deal by exposing to public view the opinions and the facts that exist in this situation; otherwise there is no way the public can have any knowledge and be able to exert pressures for its present and future security.

Chairman PROXMIRE. Now I would like to ask Mr. Hardt, Mr. Bergson, and Mr. Leontief to come forward, if you will, gentlemen. I will introduce the three of you gentlemen, and then if you would go right ahead.

Professor Abram Bergson is professor of economics at Harvard University since 1956; previously he served as chief of the economics division of the U.S.S.R. Division, OSS, during the period of 1944 to 1946. He is a renowned authority on the Soviet economy, the structure of Soviet wages, and the real national income of the Soviet Union.

Mr. Hardt is presently an economist in the Soviet Communist area studies section of the Research Analysis Corp. He received his Ph. D. in economics from Columbia University and has contributed to compendiums on the Soviet Union published by the Joint Economic Committee. He is a well-known expert on the Soviet Union.

Professor Wassily Leontief is from Harvard University and received his M.A. at the University of Leningrad and his Ph. D. at the University of Berlin. He has a long-time and deep understanding of Soviet affairs and can provide the committee with needed insights into the workings of the Soviet system.

Mr. Bergson, you can go ahead with your statement, and we will proceed in order. These are excellent statements, and I want to thank you gentlemen very much. I have had a chance to read each of them. Professor Leontief's just came this morning, but I have had a chance to glance at that.

If you gentlemen would like at any point to abbreviate your statements in any way we will be delighted to have the full statement printed in the record, and we will have a little more time for questions.

STATEMENT OF ABRAM BERGSON, PROFESSOR OF ECONOMICS, HARVARD UNIVERSITY

Mr. BERGSON. May I say first that I am very pleased to appear before your committee and to try to illuminate, if only in a small way, the very complex questions with which your committee is grappling.

"Measures taken in recent years have made it possible considerably to strengthen the power and fighting ability of the armed forces" of the Soviet Union. "The Soviet people can be confident" that their "glorious armed forces are prepared to repel attack by an enemy any time of the day or night * * * The Soviet Army is assured today of all forms of modern military equipment * * *"

So spoke L. I. Brezhnev in reporting as General Secretary to an initial session of the 24th Congress of the Communist Party of the Soviet Union last spring (Pravda, Mar. 1, 1971). Recent trends in Soviet defense capabilities are properly a matter for military experts to judge. A student of Soviet economic affairs, however, may perhaps

comment on the more basic trends in resources committed to defense in the U.S.S.R. Data on such outlays are notably incomplete and difficult to interpret. That is especially true of information in unclassified sources. Nevertheless, Soviet defense outlays lately must have increased considerably, as Brezhnev implies.

Brezhnev was reporting on developments since the previous Congress of the party, which is to say during the 5-year period 1966–70, In 1965, the U.S.S.R. spent 12.8 billion rubles on defense. By 1970 such outlays had risen to 17.9 billion or by 40 percent as shown in table 1. The years between the two Congresses also witnessed a rise in prices in the U.S.S.R., but as late as 1969 average money wages were still but 21 percent above 1965. From 1965 to 1969 wholesale prices of heavy industrial goods had risen by but 14 percent while those of machinery had fallen by 5 percent.

(The table referred to follows:)

TABLE 1.—SOVIET BUDGETARY EXPENDITURES ON "DEFENSE" AND "SCIENCE" AND RELATED PRICE CHANGES SINCE 1965

	"Defense" outlays, (billion rubles)	"Science" outlays, (billion rubles)	Average money wages (1965=100)	Wholesale prices, heavy industrial goods (1965=100)	Wholesale prices, machinery (1965=100)
1965	12.8	4.3	100	100	100
1966	13.4	4.6	104	98	98
1967	14.5	5.0	108	114	98
1968	16.7	5.5	117	114	98
1969	17.7	5.9	121	114	95
1970	17.9				
1971 (plan)	17.9				

Mr. BERGSON. These official index numbers, I believe, understate price increases and overstate price decreases, but prices of defense goods and services probably did not rise nearly as much as the defense budget. Defense outlays, therefore, must have increased not only monetarily but in real terms, and most likely to a marked degree.

I have been referring to defense expenditures that are reported explicitly in the Soviet Government's budget. The scope of such outlays is still somewhat obscure. Among Western experts on such matters, however, it seems generally agreed that reported Soviet defense figures represent expenditures of the Ministry of Defense and cover military pay and subsistence, munitions procurement, and many other defense charges of a conventional sort.

Of such omissions, defense-related research and development must be one of the most important. How that has varied lately may be judged from the trends in budget outlays for "science," a good part of which is believed to be defense-related. Budgetary expenditures for science amounted to 5.9 billion rubles in 1969, or 37 percent more than in 1965. Science expenditures in 1970 might have been appreciably greater than in 1969. Here, as for defense outlays generally, however, trends since 1965 must be viewed in the light of concomitant price increases.

Reference has been to data on Soviet defense expenditures. A marked increase in such outlays also seems indicated by reported developments in physical aspects of the Soviet military establish-

ment, such as the rise of operational ICEM's from 270 to 700, and the sharp expansion of advanced naval vessels. The introduction of new weapons, however, is often accompanied by the phasing out of old ones. The diverse trends that are thus manifest are accordingly not easy to interpret summarily.

How much do Soviet military outlays amount to in terms of U.S. dollars? Members of this subcommittee hardly need to be told how difficult it is to answer this question. As I indicated, as recorded explicitly in the Soviet Government budget, defense expenditures are incomplete. While that fact is clear, the extent of the shortfall by no means so. Reported defense expenditures, moreover, are in rubles. Translation of one country's defense expenditures into another's currency is sometimes made by reference to the official exchange rate, but that is at best only a crude expedient. For a translation of ruble defense outlays into U.S. dollars such a procedure is wholly untenable, for in view of the inconvertibility of the ruble, the official valuation of a unit of that currency at $1.11 is quite arbitrary.

All this is to say that in order to translate Soviet defense outlays there is no alternative but to apply one or another or both of two laborious methods: (i) Direct evaluation of Soviet defense goods and services in terms of U.S. dollar prices; (ii) reference to ruble-dollar purchasing-power equivalents compiled from data on prices of defense goods and services in the two countries. To apply either procedure would be a formidable task even in the most favorable circumstances. In the present case, it is only made the more so by the extreme Soviet secrecy regarding munitions production and prices. In sum, calculation of Soviet defense outlays in dollars is not precluded but is necessarily subject to a wide margin of error.

We must see in this light such measures of this sort as have been published. According to the London Institute of Strategic Studies, the Soviet Union spent the equivalent of some $51.7 billion on defense in 1970. This figure is intended to represent all expenditures, including those over and above those explicity recorded as defense outlays in the budget. The U.S. Arms Control and Disarmament Agency informs us that such expenditures already totaled $55.0 billion in 1968. The corresponding figure for 1970 would probably be appreciably larger. With the information available, I doubt that we can choose between these estimates, or even exclude others appreciably higher or lower than either of them.

What are the prospects for Soviet defense expenditures? How such outlays will vary in the coming years will depend on the evolving international environment in which the USSR finds itself; the foreign policy which the Soviet Government wishes to conduct in that environment; and the economic potential available to support one or another such foreign policy, including the defense budget that is required.

In reporting on Soviet defense expenditures to this subcommittee, 2 years ago, I commented particularly on the last factor, that is, economic potential. My thinking on this is still essentially as it was before, but perhaps I should record here that Soviet total output continues, as previously, to be but a fraction of that of the United States of America. In fact, the Soviet GNP in 1970 still was no more than half of ours.

Also, Soviet output still has been growing lately at only a relatively moderate rate; about 5 percent annually during 1965–70. I suggested previously and still feel, that even to maintain such a tempo in the future may be difficult because of the notably high capital costs of Soviet growth and the resulting conflict between investment for high growth and the need, to which the government manifestly has become increasingly sensitive, to assure respectable increases in consumption standards.

Since I last appeared here, the Soviet Communist Party has published directives for a new 5-year plan, the ninth, that is to run from 1970 to 1975. These directives were among the chief concerns of the Twenty-fourth Congress of the Party, with Brezhnev's report to which it began. If the directives are at all indicative, the government is, in fact, seeking to maintain recent tempos of growth. It apparently hopes to do so, however, through marked productivity gains. The capital stock is to increase at only a modest tempo by Soviet standards, and consumption is to grow apace with total output. To raise consumption standards "substantially" is avowedly the "principal task" of the new 5-year plan.

Whether the government's projections of productivity will prove warranted remains to be seen, and only time will tell too just how it will resolve in practice its conflicting priorities for growth and consumption. I concluded previously, however, that:

> The Soviet Government has been seeking to support a military establishment of the first-class with an economy that by U.S. standards has been of the second class. This is a difficult feat, and it is apt to become more difficult in the future, as the competing claims of capital investment and consumption become more demanding. Still the Government has found the necessary means so far, and it should be able to continue to do so, but it can be expected to scrutinize marginal requirements for additional military outlays more closely than hitherto. It will do so the more should defense requirements increase more rapidly than output. It also goes without saying that for the U.S.S.R. there has always been an economic case to join in arms control and disarmament measures. That should certainly still be so in the future.

There seems no basis to diverge here from this appraisal that I presented to this committee 2 years ago.

The appraisal does not seem vitiated either by these added words of Brezhnev in his report to the Twenty-fourth Congress:

> . . . The further growth of defense industry will depend to a great extent on the international situation. The Soviet Union is prepared to support genuine measures for disarmament that strengthen peace and do not damage our security. At the same time we must be prepared in future for any turn in events.

Following Brezhnev, Premier A. N. Kosygin also addressed the Congress, and informed his listeners that "the new 5-year plan assures the further strengthening of the defensive power of our state" (Pravda, April 7, 1971). As seen here, these words, reportedly greeted with "stormy, prolonged applause," must also be taken seriously. Any considerable "strengthening," however, would certainly be onerous for the Russians.

Opinions have often been voiced in this country lately that our defense expenditures are inordinately large and should be cut. Some advocate a reduction well beyond any that might result from our progressive withdrawal from Vietnam. I cannot here react in any systematic way to such views, but I should note that I for one find

little support for them in the account that I have set forth of Soviet defense expenditures. I refer especially to indicated increases in such expenditures in recent years. I have also cited calculations suggesting that Soviet defense outlays, while indeed large, may not be quite as large as ours. Such calculations, however, are of a very doubtful reliability. Of course they could in any case serve only as a point of departure for serious inquiry into the extraordinarily complex question of the appropriate level of our own defense outlays.

Debate about U.S. defense outlays lately had revolved especially about the advisability of a unilateral cut in such expenditures. Among men of goodwill, there hardly can be any real differences as to the merit of limitations on defense outlays that the United States of America and the U.S.S.R. might find it in order to initiate by agreement. Let us hope, therefore, that both we and the Russians will not fail to exploit any opportunity that may confront us to achieve that end.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you, Mr. Bergson.

Mr. Hardt, go ahead.

STATEMENT OF JOHN P. HARDT, ECONOMIST, SOVIET COMMUNIST AREA STUDIES SECTION, RESEARCH ANALYSIS CORP.

Mr. HARDT. Mr. Chairman, I am here in response to your kind invitation to testify on Soviet economic priorities.

I will summarize my comments by a restatement of several of your questions in your invitation letter with my tentative answers.

The first question: Is the Soviet leadership reordering its priorities in resource allocation as between military production and manpower and civilian investment and consumption needs?

There is some evidence that the Soviet leaders will or perhaps have decided to return to the pre-Cuban missile crisis, Khrushchevian priority for modernizing their technologically backward, slowly growing civilian economy at the expense of a new round of military buildup and may consider a resumption of military manpower demobilization. Certainly the economic rationale for reordering priorities for improving efficiency may be countered by the Soviet leadership's interpretations of their strategic needs related to their assessment of the progress on the Strategic Arms Limitation Talks (SALT), the China threat, the Berlin discussions, or other negotiations or perceptions, so well covered by Ambassador Harriman earlier.

Still, however pressing the economic requirements become—I single out energy and manpower problems as highlighted in the current plan—Soviet leaders may determine economic problems to be necessary but not sufficient conditions for a reordering of priorities. If the current plan is overcommitted, as in the past, industrial and agricultural investment and consumer needs may yet be shortchanged as residual claimants after military needs are met. If this results then the projected improvements in economic efficiency, referred to by Professor Bergson, consumer welfare, and economic growth, would all likely suffer.

The second question: Is the primitive Soviet system of economic planning and management likely to change significantly?

We have heard calls for reform associated with the names of Liberman, Kosygin, and others for over a decade, and although professionalism has returned to many of the economic institutes and university faculties in the Soviet Union, the rhetoric of change has not been translated into significant planning and management changes. In the continuing struggle between the expanding cadre of professional economic planners and managers and the party apparatus-oriented bureaucrat, the bureaucracy appears to hold fast. Although the potentiality of change and the rationale for change may be greatly enhanced, the likelihood or evidence of change is not persuasive to date.

Therefore, as economic problems are apparently not enough to bring about a reordering of priorities and change in the economic system, I would have to pose a third question, beyond my economic expertise, seemingly necessary to justify an expectation of any significant shift away from the military priority, and continuation of the old command economy system.

And that third question is this: How may the institutional or bureaucratic rigidity and resistance to change be broken to permit significant changes in resource allocation and economic reform?

Herein I think the answer must be focused on the top leadership, the General Secretary of the Party, Leonid Brezhnev. If Brezhnev now has the power he did not possess before the Party Congress, then he may perceive a need to reorder priorities away from military claimants and initiate reforms reducing direct party control of the economy. Paradoxically Brezhnev as party leader might move to change the character and extent of party involvement in the economy if by so doing the resultant improved economic performance would redound to his credit and solidify his position as top party leader.

A highly speculative parallel between Brezhnev in 1971 and Khrushchev in 1956 might be drawn to illustrate how the unresponsiveness of the Soviet economy to changes in priorities or mechanisms for planning and management might be broken. Nikita Khrushchev appeared to believe in 1956 that improved economic performance would enhance the position of the Soviet Union vis-a-vis the United States and strengthen thereby his position in the party. Certainly there are important differences between Khrushchev's position in 1956 and Brezhnev in 1971 and history seldom repeats itself in any identical fashion. But this appears to be the closest precedent for the kind of political environment necessary for current economic change. And yet I sense that a similar kind of combination of economic and political factors may be present and change is more possible now, in a permissive SALT environment, then in the past. Therefore the ninth 5-year plan may well turn out to be not just a rerun of the eighth 5-year plan of rising military priority and civilian muddling through, but a turning point in reordering priorities and economic reform.

The desired efficiency of energy, labor, and other factors suggest increasing logic for adoption of new institutional mechanisms of efficiency, even if party and traditional economic bureaucracy control is threatened. Progress has been made on the establishment of the preconditions for change in economic planning (a shift from maximal, Stalinist-type) to optimal planning. The preconditions have not been followed by the adoption of change: More professional economists

are available and doing research. Yet they are not directly involved in planning. The Soviets have developed a macroeconomic tool for better planning (their input-output table for 1959, then a much improved table for 1966, and now we understand one is being planned for 1972). Still input-output analysis has not yet been integrated into the system of planning.

Many economic problems related to future economic performance might be singled out to illustrate the increasing pressures for change but one of the most persuasive is the plan for the West Siberian oil-gas complex in the current plan. Petroleum and natural gas is to provide the lion's share of the additional energy for Soviet domestic and export needs. About three-quarters of the increased petroleum output is to come from expansion of the West Siberian fields during the ninth 5-year plan. The percentage is to be 75–80 percent, according to Soviet Oil Minister Shashin, for the decade as a whole.

Chairman PROXMIRE. Could I ask, Mr. Hardt, at this point I think this is really a marverous case study. It is one of the best I have ever seen of a specific analysis of how the Soviet priority problem is pressing on their leadership, and I think you do a superb job. I would appreciate it, however, in view of the fact that it is detailed, and it is a long statement, and we have to hear from Professor Leontif and then go into the questioning, if you could summarize that part of it, perhaps, and go into your conclusion, if that would not be too much of an interruption.

Would that be all right?

Mr. HARDT. Certainly. The central points of this plan are that it is a very important plan to the total energy requirements. It is a regional, integrated plan. Moreover, it is projected to be completed in a much shorter time than previous, similar projects, have been completed. Therefore, the record does not support the optimism that is officially expressed. But, more than that, the West Siberian development is an integrated development that plans for breakthroughs in technology which tie the Soviet Union to need for trade with the United States. The technology of the Alaskan development, for example, seems required in the Soviet case.

I would also pose for you the question, "If this plan is not completed, so what?" The answer is that it is very important to the Soviet Union: Because their domestic economy needs the increased energy; because petroleum exports have been their major source of hard currency; and because oil exports are a major source of political leverage through their supply to east European countries.

The recent Comecon discussions make interesting references to problems of financing the development investment in the Soviet Union. Those investment projects needed to supply Eastern Europe with petroleum are perhaps the most important in terms of the deficiencies of the east European countries, and are to require more direct east European investment. This again has a political dimension; namely: Oil is a leverage which the Soviets can use, i.e., economic leverage on the east European countries. This represents an important aspect of the Soviet control system, much more desirable than the intrusion of tanks, as in the case of Czechoslovakia and more applicable today.

So, it is important that the Soviets meet this plan. It is not something that they can equivocate about, have short falls in and not suffer serious economic and political losses.

Now, I have suggested to you in the statement that this Siberian project is a potential competitor with a military plan, and if I may dwell on that point of the presentation.

To have effective priority, these particular new claims of the Siberian projects would appear to be competitive with military hardware output in capacity for high test metals, sophisticated machines, construction crews, etc. It does not, however, necessarily follow that the military programs have been reduced in the classified military project lists but the necessary priority to meet all the technologically advanced equipment and manpower needs of the Siberian projects would appear to pose direct competition with military claimants.

The potential military competition of this major civilian investment project has a special time dimension to it. The further the Siberian development proceeds in time the greater the logic to put in necessary resources to bring it to full effectiveness. Now, if the development of new strategic systems, i.e., the SS–9 and SS–11, were also to involve a long, risky and expensive process—the gestation period for such systems is said to be 8–10 years—then the question would arise as to whether the two patterns of resource allocation could be simultaneously supported. Or a more critical question for Mr. Brezhnev would be, assuming a current readiness to initiate or give priority to both programs, at what point could overcommitment be perceived and resources shifted to bring the effort having the priority to timely completion. The specter of both military and civilian programs being underfunded, delayed, and uncertain of completion would not seem an attractive prospect to the party of its leader.

Likewise if overcommitment is permitted, the military programs begun, e.g., an additional deployment of SS–9 or SS–11 offensive missiles or another model of a Soviet ICBM or ABM, it may be not only very difficult, indeed technologically impossible, to shift resources to civilian programs.

I have called your attention to the problem of labor as well. Labor problems are directly related, and they have extremely ambitious plans for increases in productivity, with nine-tenths of the increase in output to come from increases in productivity. I think most of us studying the plan would agree that these are ambitious. I have tried to outline some of the reasons why these are ambitious, Senator. I will leave that discussion to the prepared statement, and go to the related question of military manpower and the problem it poses for meeting the civilian requirements.

It is well to recall that demobilization of some three million members of the Armed Forces in the late 1950's (from 5.8 to 3.0 million in the period 1955–61) not only eased Khrushchev's labor problem, but coincided with rather good years of economic performance.

Although the reduction in military manpower may have been facilitated by technological modernization of the military forces and a reduction of missions such as the withdrawal from Austria after the treaty, the historical reference may have current force. Again in a time when manpower deficiencies are becoming more serious no other ready, major source of labor—especially young males to meet civilian needs—is presently available comparable to the military forces. Military demobilization would probably be stoutly resisted but not necessarily with success. Indeed demobilization was apparently quietly

revived after 1961 as noted by Nikita Khrushchev in 1963 at the party plenum and by 1965 his original target of 2.4 million in military manpower reduction was reached.

With the China border crisis and the Czech invasion the strength is apparently back above the 1961 level of circa 3 million at 3.5 (including the border guards and internal security forces). The logic for reduction in the size of the military force might now again be improved economic performance, especially if reductions of requirements in Europe may be conducive to a release of say 100,000 to 200,000 men. Certainly the China border holds out little short run promise for detente. The requirement for some 40 to 45 Soviet divisions on the China border may indeed rather increase rather than decrease.

As I have suggested at the outset, the Soviet leadership may change their economic game plan. Let me again indicate that a particular combination of domestic economic, political, as well as international circumstances appear necessary for change. The absence of any one of the aforementioned may engender or strengthen the internal resistance to a point too strong to be overcome by the will of the current leadership.

I am convinced that Soviet resource priorities should be recorded and the economic system modernized, but is Mr. Brezhnev and the Soviet leadership? Why would the Soviet military agree to a diversion of resources from military hardware output to develop projects such as the West Siberian oil and gas complex or stand still for a reduction in military manpower to meet civilian needs—no matter how pressing the economic need? Why should the party apparatus and their traditional allies in planning and management now in power step aside for new professional economic planners and demand-oriented managers?

The only ready answer would seem to be that Mr. Brezhnev is able and willing to convince these entrenched interests to permit a change. Without new power and perception of need of change by Mr. Brezhnev, I fear that my "objective" logic will carry insufficient weight.

Therefore, I conclude that the stagnation and rigidity of the Soviet system will continue unless Mr. Brezhnev has the power and will to break it. For him to do so turns at minimum on two assumptions of change:

(1) Leonid Brezhnev has emerged from the recent party congress primus inter pares, approaching the personal rule of previous first secretaries, perhaps akin to that of Khrushchev in 1956.

(2) With the new power goes new responsibility for success in the economy, as well as elsewhere, and that Mr. Brezhnev therefore perceives a need to change to reinforce his new position at the Soviet pinnacle.

In this the progress of the SALT talks would seem to have a negative influence, i.e., failure of the talks would strengthen those resisting change, even if Brezhnev indeed opts for change in his own interest.

This kind of scanario is not completely without precedent, although it is not characteristic of the Soviet system or of Brezhnev's style of operation. In 1956, Khrushchev, his Minister of Defense Zhukov, and the party had agreed to reduce military manpower and modernize the Soviet forces. Zhukov was not only interested in modernization but in reduction of party control in the military. The stimulus to economic growth from the release of resources was a factor in the con-

tinued high growth rates and may have led Khrushchev to promise to overtake and surpass the United States. It may also have led, by poor economic performance, to his demise.

Let me leave the subjective leadership speculation and close on a more objective note of the choice between sophisticated civilian investment and military hardware output. There may be a delay in the program for further buildup of the SS–9.

Commitments may not yet be made to a new round in strategic weapons buildup. On the other hand, the West Siberian oil-gas complex appears to be moving ahead. If these are viewed as competitive patterns of resources allocation and if at some point in the not-too-distant future some relatively irreversible decisions on allocations are necessary, this consideration may be so perceived by Mr. Brezhnev and acted upon. That is, to avoid overcommitment to two competitive, nonconvertible patterns of resource commitment, Brezhnev may be inclined, by this logic, to direct resources from the potential military program to bring to fruition the civilian investment project.

It is also possible he may act to reduce military manpower and to initiate economic reform, but these seem less likely courses of Soviet action in a possible reordering of priorities.

Thus, if the options open to the Soviet leadership are reduction of the priority for new strategic weapon systems, a cutback in military manpower, a withdrawal of party control and involvement in the economy so as to permit economic reform, I would suggest that that is the order of likelihood of change. And even for a downward revision in priority for further military weapons buildup—my most likely candidate for changes—not only the economic rationale must be persuasive but also the domestic political and international climate must be favorable to expect a break in the pattern of the past.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you, Mr. Hardt, very, very much.

(The prepared statement of Mr. Hardt follows:)

PREPARED STATEMENT OF JOHN P. HARDT

I. INTRODUCTION AND SUMMARY

Mr. Chairman, I am here in response to your kind invitation to testify on Soviet economic priorities in my private capacity rather than as an official representative of Research Analysis Corp. With your permission, as a professional economist I shall center my answers to the questions you posed on the Soviet economic policy alternatives and rationale for choice. In this I shall draw especially on the Soviet discussions of their Ninth Five Year Plan for the years 1971–1975 inclusive.[1]

May I summarize my comments by a restatement of several of your questions in your invitation letter with my tentative answers:

1. Is the Soviet leadership reordering its priorities in resource allocation as between military production and manpower and civilian investment and consumption needs?

There is some evidence that the Soviet leaders will or perhaps have decided to return to the pre-Cuban missile crisis. Khrushchevian priority for modernizing their technologically backward, slowly growing civilian economy at the expense of a new round of military buildup and may consider a resumption of military manpower demobilization. Certainly the economic rationale for reordering priorities for improving efficiency may be countered by the Soviet leadership's interpre-

[1] See especially Pravda, Apr. 11, 1971, and Voprosy ekonomiki (Problems of Economics), No. 6. 1971.

tations of their strategic needs related to their assessment of the progress on the Strategic Arms Limitation Talks (SALT), the China threat, the Berlin discussions, or other negotiations or perceptions. Still, however pressing the economic requirements become—I single out energy and manpower problems as highlighted in the current plan—Soviet leaders may determine economic problems to be necessary but not sufficient conditions for a reordering of priorities. If the current plan is overcommitted, as in the past, industrial and agricultural investment and consumer needs may yet be shortchanged as residual claimants after military needs are met. If this results then the projected improvements in economic efficiency, consumer welfare, and economic growth would all likely suffer.

2. Is the primitive Soviet system of economic planning and management likely to change significantly?

We have heard calls for reform associated with the names of Liberman, Kosygin, and others for over a decade, and although professionalism has returned to many of the economic institutes and university faculties in the Soviet Union, the rhetoric of change has not been translated into significant planning and management changes. In the continuing struggle between the expanding cadre of professional economic planners and managers and the party apparatus-oriented bureaucrats, the bureaucracy appears to hold fast. Although the potentiality of change and the rationale for change may be greatly enhanced, the likelihood or evidence of change is not persuasive to date.

Therefore, as economic problems are apparently not enough to bring about a reordering of priorities and change in the economic system, I would have to pose a third question, beyond my economic expertise, seemingly necessary to justify an expectation of any significant shift away from the military priority and continuation of the old command economy system.

3. How may the institutional or bureaucratic rigidity and resistance to change be broken to permit significant changes in resource allocation and economic reform?

Herein I think the answer must be focused on the top leadership, the general secretary of the party, Leonid Brezhnev. If Brezhnev now has the power he did not possess before the party congress, then he may perceive a need to reorder priorities away from military claimants and initiate reforms reducing direct party control of the economy. Paradoxically Brezhnev as party leader might move to change the character and extent of party involvement in the economy if by so doing the resultant improved economic performance would redound to his credit and solidify his position as top party leader. A highly speculative parallel between Brezhnev in 1971 and Khrushchev in 1956 might be drawn to illustrate how the unresponsiveness of the Soviet economy to changes in priorities or mechanisms for planning and management might be broken. Nikita Khrushchev appeared to believe in 1956 that improved economic performance would enhance the position of the Soviet Union vis-a-vis the United States and strengthen thereby his position in the party. Certainly there are important differences between Khrushchev's position in 1956 and Brezhnev in 1971 and history seldom repeats itself. But this appears to be the closest precedent for the kind of political environment necessary for current economic change. And yet I sense that a similar kind of combination of economic and political factors may be present and change is more possible now, in a permissive SALT environment, than in the past. Therefore the Ninth Five Year Plan may well turn out to be not just a rerun of the Eighth Five Year Plan of rising military priority and civilian muddling through, but a turning point in reordering priorities and economic reform.

The desired efficiency of energy, labor and other factors suggest increasing logic for adoption of new institutional mechanisms of efficiency, even if party and traditional economic bureaucracy control is threatened. Progress has been made on the establishment of the preconditions for change in economic planning (a shift from maximal, Stalinist-type) to optimal planning. The preconditions have not been followed by the adoption of change: More professional economists are available and doing research. Yet they are not directly involved in planning. The Soviets have developed a macroeconomic tool for better planning (their input-output table for 1959, then a much improved table for 1966, and now we understand one is being planned for 1972). Still input-output analysis has not yet been integrated into the system of planning. However slow the overall progress of reform, it is possible that they will proceed on a ad hoc basis to improve efficiency in industry and agriculture, especially to address specific problems such as those illustrated by energy and manpower deficiencies. Two examples are worth par-

ticular note: The Shchekino experiment in industry and the link (Zveno) in agriculture. Economic logic suggests they may move ahead in these ad hoc reforms even if overall changes in the system are postponed. The removal from the top leadership of Mr. Voronov, long an advocate of the Zveno, may suggest a setback for this reform instrument, but another variant may nonetheless be found attractive, or his removal may have been independent of his support of the Zveno. And of course even ad hoc change, once begun, may develop its own momentum.

II. THE GAMBLE ON WESTERN SIBERIAN OIL AND GAS

Many economic problems related to future economic performance might be singled out to illustrate the increasing pressures for change but one of the most persuasive is the plan for the west Siberian oil-gas complex in the current plan. Petroleum and natural gas is to provide the lion's share of the additional energy for Soviet domestic and export needs. About three-quarters of the increased petroleum output is to come from expansion of the west Siberian fields during the ninth 5 year plan. The percentage is to be 75–80 percent, according to Soviet Oil Minister Shashin, for the decade as a whole. Although the specific allocation of marginal resources (the annual growth of goods and services) is not clear in the plan directives, it appears that a large share of new investment, industrial production, construction and industrial manpower may be committed to the ambitious, costly, and uncertain development of the west Siberian petroleumm-natural gas complex. Natural gas from Siberian fields has a similar pivotal role in development. West Siberian gas output was only 318 billion cubic feet per year in 1970 and is expected to rise to 4.6 trillion cubic feet per year in 1975. Tyumen Province will then be the No. 1 gas and oil producer in the U.S.S.R.[2] Although investment in other regions (e.g., east Siberia) or other sectors (e.g., electrification, agriculture, nonferrous metals) is ambitious, none of the planning outlays have the apparent priority, interrelated importance to overall development, cost and uncertainty characterized by the west Siberian development. Perhaps this is the reason Robert Campbell referred to the development as a desperate gamble before this committee in June 1970. Campbell elsewhere noted, "The important issue is how costly it will be to keep oil and gas output in the new areas of western Siberia growing. On the surface there is complete official optimism on this score, but one can't help having doubts because of the difficult conditions and the fact that the Ministry officials seem always to have been much less enthusiastic about the potential of the region than is the party." [3] A number of factors highlight this uncertainty:

(1) It should be stressed that the development is not just the drilling of more oil wells or tapping natural gas deposits in Tyumen Province, west Siberia, but the integrated development of output, refining capacity, transportation or transmission facilities, consuming, and joint product producing industries. Although each link in the complex is not necesarily the uniquely critical bottleneck to the effectiveness of all other elements, there is a high degree of indivisibility.

(2) The time required for the new projects listed in the ninth 5-year plan, that is, by 1975, is considerably shorter than comparable Siberian projects by a factor of 1:2 (5 as compared to 10 years).[4] Although there are high placed academicians and party people who argue the cost will be less than comparable development in European Russia, their computations appear subject to legitimate question by other Soviet professional economists on grounds that they understate transmission costs and social overhead.[5] For example, A. Probst, the dean of Soviet energy economists, would appear to differ with view expressed by Academician Aganbegian, the senior economist of the Siberian branch of the Academy of Sciences.

(3) Finally the ambitious and costly nature of the development is compounded by geological uncertainty and technological difficulties relating to climatic and technological problems. Underestimation of the effect of permafrost has been

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[2] Oil and Gas Journal, Aug. 24, 1970, p. 128.
[3] ASTE Bulletin, vol. XII, No. 2, fall 1970, p. 11.
[4] G. A. Prudensky (ed.), Ekonomika stroitel'stva osvoyeniye novykh predpriyatiy (Economics of Construction and Break In of New Enterprises), Moscow: Strolizdat, Siberian Academy of Sciences, 1966, p. 26.
[5] A. Probst, "K prognozi ekonomicheskogo razvitiya proizvodstvennoi spetsializatsii vostochnykh raionov SSSR (Toward a Prognosis of the Economic Development and Productive Specialization of the Eastern Regions of the USSR)", Seriya ekonomicheskaya, No. 5, 1970, p. 69; T. Khachaturov, "The Economic Effectiveness of Capital Investments," Kommunist, September 1966, pp. 66–67.

especially responsible for major cost overruns and time delays in oil and gas extraction and transmission development. Most of the gas reserves in west Siberia, for example, are within 200 km. (124 miles) of the Arctic Circle. Western petroleum authorities call particular attention to the permafrost problem,

Pravda declared that permafrost was "obviously guilty" of causing serious discrepancies between data obtained from geophysical work and from drilling in a number of explored areas in northern Tyumen Province.

"We would find that wells drilled within the apparent limits of a gas field turned out to be dry holes, each of which cost us 100,000–200,000 rubles ($111,000–$222,000). Outlines of gas deposits provided by our geophysical personnel were not sufficiently accurate."

Russian scientists expect permafrost to pose particularly difficult problems when giant western Siberian gasfields near the Arctic Circle are put on production. They admit they don't know what will happen, for example, when large-diameter development wells drilled through thick permafrost in the trans-Arctic. . . .[6]

(4) It appears that the attractiveness of the west Siberian deposits was enhanced in part by the unpleasant realization that the Ural-Volga fields (Tatar, Bashkir, Kuibyshev) were peaking out before expected and that new increments would have to come primarily from the Siberian fields.[7]

(5) Also there seems to be some question as to how much of the natural gas in Siberia is "proven" or "explored."[8] An apparent shift of the definition of "proven" to include what in Western and formally in Soviet usage was "probable" has an ominous ring to those familar with Soviet statistical legerdemain. To paraphrase Nikita Khrushchev's criticism of bloated agricultural statistics, they will not be able to consume statistics. Some Soviet geologists are very bullish about Siberian reserves. Indeed, some of them appear to buttress their arguments with new unproven geological theories—which bring to this observer a reminder of Lysenko and the "solution of the grain problem."[9]

(6) Technological problems also abound as it appears that although the rotary drill worked well for the Ural-Volga fields, it may not do for west Siberian where United States-Alaskan technology would be more appropriate in some Soviets' views. As a result the required drilling equipment might have to come from the West.[10] The technological problems do not stop here as drilling in permafrost in temperatures well below freezing require special high test equipment. Then again transmission poses further technical and supply problems.

(7) Possible export advantages are offset by input requirements. Shortages of pipe production capacity and "know-how" alike force use of scarce hard currency or petroleum exports to Germany, Japan, and elsewhere to finance pipe imports on barter arrangements.[11] Thus, part of the expanded output is in effect mortgaged to pay for imported investment goods.

All this is not conclusive of overcommitment necessarily leading to nonfulfillment of the plan. With high enough priority and willingness to accept high resource costs perhaps performance can significantly rise above past norms and bottlenecks can be overcome. Indeed the number of projects related to the West Siberian development specifically mentioned in the directives suggest high priority consideration. Whereas in 1970 there are 1,243 large or "titled" projects in the new plan less than 100 are specifically referenced in the directives, a good portion of which are directly related to the West Siberian complex.[12] That these specific references were made may be related to the newness of some of the West Siberian projects or it may reflect their possible high current priority. Certainly the majority of the projects were carried over from the eighth 5-year plan. Indeed 901 of the current projects were initiated by 1966 tying up some 54 billion rubles. Some projects have been 12–14 years in progress.[13] To have effective priority, these particular new claims of the Siberian projects would appear to be competitive with military hardware output in capacity for high

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[6] The Oil and Gas Journal, Aug. 24, 1970, p. 128.
[7] Neftianoye khozialstvo, No. 3, 1971, pp. 1–62.
[8] N. S. L'vov, Resursi prirodnogo gaza SSSR (Resources of Natural Gas in the USSR), Moscow: Nedra, 1969, pp. 33, 36.
[9] Academician A. Sidorenko of the Ministry of Geology, USSR, "Oil Riches—In Service of the Economy," Pravda, Feb. 25, 1971. Cf. F. G. Gurari, "Oil and Gas in West Siberia: Prospects, Problems," Priroda, No. 1, 1971, pp 16–23.
[10] Neftyanik (Oil Worker), No. 1, 1971, p. 5.
[11] Interview with Soviet Oil Minister V. C. Shashin, Oil and Gas Journal, Aug. 24, 1970, p. 22.
[12] Voprosy ekonomiki, No. 6, 1971, p. 3; Pravda, Apr. 11, 1971.
[13] Ibid., p. 8.

test metals, sophisticated machines, construction crews, etc. It does not, however, necessarily follow that the military programs have been reduced in the classified military project lists but the necessary priority to meet all the technology advanced equipment and manpower needs of the Siberian projects would appear to pose direct competition with military claimants.

The potential military competition of this major civilian investment project has a special time dimension to it. The further the Siberian development proceeds in time the greater the logic to put in necessary resources to bring it to full effectiveness. Now if the development of new strategic systems, that is, the SS–9 and SS–11, were also to involve a long, risky, and expensive process—the gestation period for such systems is said to be 8–10 years—then the question would arise as to whether the two patterns of resource allocation could be simultaneously supported. Or a more critical question for Mr. Brezhnev would be, assuming a current readiness to initiate or give priority to both programs, at what point could overcommitment be perceived and resources shifted to bring the effort having the priority to timely completion. The specter of both military and civilian programs being underfunded, delayed, and uncertain of completion would not seem an attractive prospect to the party or its leader.

Likewise if overcommitment is permitted, the military programs begun; for example, an additional deployment of SS–9 or SS–11 offensive missiles or another model of a Soviet ICBM or ABM, it may be not only very difficult, indeed technologically impossible, to shift resources to civilian programs. It is not by chance that Soviet planning periodically leads to overcommitment in a large number of partially completed projects. This is the other side of the tautness coin. Overcommitment or tautness may lead to squeezing all the results possible out, but there are both technological and management problems in conversion. To say this has always been true in the past misses qualitative changes, the completion times for either regional investment complexes or major strategic systems is now rather long—approaching a decade. And the conversion of resources committed to either the civilian or military development becomes increasingly limited over time.

There is also the overwhelming impression that the West Siberian regional project had the same shortcomings of the political-engineering approaches to regional development of the Stalinist past. Indeed in the lead article in the post Congress publication of the Academy of Sciences, V. Krasovskiy finds it "unfortunate" that a complex regional plan was not drawn up.[14] He recommends what appears to be techniques of modeling of regional development common in the West. By direct reference to the Ural-Kuznetz Kombinat plan for 1931 seems to confirm our impression that the old production engineer type planning techniques were used in planning the current Siberian projects. Discussions by S. M. Vishneva on bottlenecks and Academician Agenbegian on the economic effectiveness of the West Siberian oil-gas complex further indicate the existence of an internal planning debate in the Soviet Union on this regional complex.[15]

If increases in petroleum and natural gas output planned for 1975 are not met, what then? (1) The energy requirements for the Soviet economy will either be met by more coal output, expensive expansion of oil output in older fields, importation of oil or natural gas, or output and consumption might be allowed to suffer. It is possible to produce more coal in European Russia. Indeed, the Ukranian party boss Shelest complained at the Congress that no new coal mines had been opened in his Republic in 5 years.[16] The reasons are clear. Coal produced in European Russia is very expensive and of low quality.[17] More oil could be extracted from the Ural-Volga fields but probably at a ratio of 1:1 with water. Importation from Iran of natural gas or oil in exchange for military or other equipment may be attractive, if possible, but hard currency for Arab oil would not be. And finally, energy deficiencies which lead to shortfalls in fulfilling the Soviet ninth 5-year plan are not an attractive prospect.

(2) The burgeoning requirements of Eastern Europe for petroleum and natural gas might be cut back. The Soviet Union appears generally unwilling to reduce deliveries to Eastern Europe or encourage them to seek other sources.[18]

[14] Voprosy ekonomiki, No. 6, 1971, p. 8.
[15] Ekonomika i matematicheskie metodi, vol. 7, No. 2, 1971; A. Agenbegian, Sbornikh "Neft' i gas Tyumeni," No. 5, Tymen, 1970 (cited in Voprosy ekonomiki, No. 6, 1971, p. 8).
[16] Pravda, April 1971.
[17] Fuel deficit in European Russia was 70 million conventional tons in 1965, 140 million conventional tons in 1970, and is expected to grow to circa 350 million in 1975. A. Probst, Voprosy ekonomiki, No. 6, 1971, p. 55.
[18] Platts Oilgram, Feb. 13, 1970, p. 1. To meet an East European deficit in 1980, 84,000,000 tons will have to be imported from the U.S.S.R. or elsewhere.

The recent Polish agreement with British Petroleum being a notable exception.[19] Perhaps the continued dependence on the U.S.S.R. for oil, grain, and ore is a political lever of critical importance to Soviet influence. The lack of such a lever may help explain Rumanian independence, for example.

(3) Exports to Western Europe to meet import obligations and earn hard currency may be reduced. Indeed, this is precisely what happened in 1969.[20] But surely this is not attractive to Soviet leaders as underlined by the proceedings of the Eighth World Petroleum Congress held in Moscow in June 1971 in which expansion of Soviet petroleum exports was featured.[21]

Petroleum and natural gas development in west Siberia are singled out because of their importance and because the Soviet plan highlights them. Other civilian investment is expensive, risky, and, have balance-of-payment implications, for example, the car and truck output plans, electric power expansion (including atomic stations), agricultural investment, and so forth. Also other regional developments in Bratsk Ust-Ilyme, South Tadzhikistan, Tatar Republic, and so forth bear critical examination.[22] But none of them appear to have the pressing need for priority, potentiality for cost inflation, or interrelated importance of the Siberian petroleum/natural gas complex.

III. LABOR AS A CONSTRAINT

From these sketchy directives we may also single out manpower as a problem area with some characteristics similar to the energy problem. Labor productivity is planned to account for 87 to 90 percent of the total increment in output during the ninth 5-year plan. While the total labor force is to increase at an annual rate of 1.7 percent, the key industrial force is stipulated to grow by only 1 percent. This modest increase in the industrial labor force is about one-third the rate realized during the eighth 5-year plan (1 as compared to 2.8). To be sure, in the past overambitious increases in labor productivity were offset by higher than planned expansion of the industrial labor force at the expense of agriculture, services, and so forth. As noted by Murray Feshbach, ". . . in most years prior to the 1960's the planned number of workers and employees was met, and in industry the actual number frequently was 200,000 to 300,000 persons above the plan. In 1965, however, the actual number for industry was barely 25,000 above the plan, and by 1967 there was a shortage of 125,000 industrial-production personnel relative to plan requirements." [23] This graphically measures the end of "buffer" sectors to cover shortfalls in industrial manpower needs.

In the past, labor deficiencies were met by shifts from lower priority sectors (e.g., agriculture) and more intensive use of available labor (e.g., higher participation ratios, longer hours, etc.). Now not only is labor not likely to be released from other sectors to meet industrial needs, but in the current plan income, investment, and administrative policy is designed to keep skilled workers in agriculture from migrating to urban industrial jobs. Nonetheless, 90 percent of the high school graduates from rural schools still seek urban employment.[24] So likely shortfalls in the improvement in labor productivity will aggravate the labor shortage.

It is well to recall that demobilization of some 3 million members of the Armed Forces in the late fifties (from 5.8 to 3.0 million in the period 1955–61) not only eased Khrushchev's labor problem, but coincided with rather good years of economic performance.[25] Although the reduction in military manpower may have been facilitated by technological modernization of the military forces and a reduction of missions such as the withdrawal from Austria after the treaty, the historical reference may have current force. Again in a time when manpower deficiencies are becoming more serious no other ready major source of labor—especially young males to meet civilian needs—is presently available comparable to the military forces. Military demobilization would probably be stoutly resisted

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[19] London Economist, July 10, 1971, p. 90.

[20] In 1969—for the first time since 1955, when the Soviet Union became a net exporter of oil, exports to the free world declined by about 3,000,000 tons. * * * Oil exports to the free world have been the largest single source of foreign exchange * * * about $350,000,000 in 1969." J. Richard Lee, "The Fuel Industries," Economic Performance and the Military Burden in the Soviet Union, Joint Economic Committee, GPO, 1970, p. 35.

[21] Washington Post, June 1971; Robert Ebel in World Petroleum, June 1971.

[22] Voprosy ekonomiki, Krasovskiy, op. cit., p. 3.

[23] M. Feshbach, "Manpower Trends in the U.S.S.R.," Census Bureau, May 1971, pp. 1, 18.

[24] Feshbach, p. 12.

[25] J. Godaire, "The Claim of the Soviet Military Establishment," Dimensions of Soviet Economic Power, Joint Economic Committee, GPO, 1962, p. 43.

but not necessarily with success. Indeed demobilization was apparently quietly revived after 1961 as noted by Nikita Khrushchev in 1963 at the Party Plenum and by 1965 his original target of 2.4 million in military manpower reduction was reached.[26] The military probably did not favor the reduced term of service in the 1967 draft reform yet they were overridden by the Brezhnev-Kosygin leadership. The logic may then have been broader based political indoctrination—a shorter term of service for more Soviet youths. With the China border crisis and the Czech invasion the strength is apparently back above the 1961 level of circa 3 million at 3.5 (including the border guards and internal security forces).[27] The logic for reduction in the size of the military force might now again be improved economic performance, especially if reductions of requirements in Europe may be conducive to a release of say 100,000 to 200,000 men. Certainly the China border holds out little short-run promise for detente.

IV. A NEW SOVIET ECONOMIC GAME PLAN?

As I have suggested, the Soviet leadership may change their economic game plan. Let me again indicate that a particular combination of domestic economic, political, as well as international circumstances appear necessary for change. The absence of any one of the aforementioned may engender or strengthen the internal resistance to a point too strong to be overcome by the will of the current leadership. Permit me to restate the difficulty in postulating a reordering of priorities and economic reform.

I am convinced that Soviet resource priorities should be reordered and the economic system modernized, but is Mr. Brezhnev and the Soviet leadership? Why would Soviet military agree to a diversion of resources from military hardware output to develop projects such as the west Siberian oil and gas complex or stand still for a reduction in military manpower to meet civilian needs—no matter how pressing the economic need? Why should the party apparatus and their traditional allies in planning and management now in power step aside for new professional economic planners and demand-oriented managers? The only ready answer could seem to be that Mr. Brezhnev is able and willing to convince these entrenched interests to permit a change. Without new power and perception of need of change by Mr. Brezhnev, I fear that my "objective" logic will carry insufficient weight. Therefore I conclude that the stagnation and rigidity of the Soviet system will continue unless Brezhnev has the power and will to break it. For him to do so turns on two assumptions of change:

(1) Leonid Brezhnev has emerged from the recent Party Congress primus inter pares, approaching the personal rule of previous First Secretaries, perhaps akin to that of Khrushchev in 1956.[28]

(2) With the new power goes new responsibility for success in the economy, as well as elsewhere, and that Mr. Brezhnev therefore perceives a need to change to reinforce his new position at the Soviet pinnacle.

In this the progress of the SALT talks would seem to have a negative influence, i.e., failure of the talks would strengthen those resisting change, even if Brezhnev indeed opts for change in his own interest.

This kind of senario is not completely without precedent, although it is not characteristic of the Soviet system or of Brezhnev's style of operation. In 1956, Khrushchev, his Minister of Defense Zhukov, and the party had agreed to reduce military manpower and modernize the Soviet forces. Zhukov was not only interested in modernization but in reduction of party control in the military. The stimulus to economic growth from the release of resources was a factor in the continued high growth rates and may have led Khrushchev to promise to overtake and surpass the United States. Khrushchev apparently perceived the need to reorder priorities and to temporarily reduce party control in the armed forces to solidify his power position. It was only later after the first Kennedy budget and the Cuban missile crisis that he apparently reversed these priorities, initiating the buildup of some of the weapons we now see deployed and stopping the progress of military manpower reduction. This reversal and the attendant poor economic performance may have been a factor in his demise.

Even accepting this highly speculative scenario of Khrushchev in 1956, as being relevant to Brezhnev in 1971, it is difficult to expect Brezhnev to opt for change

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[26] Confirmed in an interview of Marshal Sokolovsky on Feb. 18, 1965.
[27] Institute of Strategic Studies, "The Military Balance 1970–71," London, p. 6.
[28] See Myron Rush, "Brezhnev and the Succession Issue," Problems of Communism, July–August 1970, pp. 9–15.

in the three areas simultaneously: a reduction of the military hardware share of industrial output growth; reduction of military manpower, and reduction of party control and involvement in the economy, military, etc. What then is likely is that all may become issues which may be negatively influenced by external negotiations and foreign developments and positively influenced by Brezhnev's rise in power and perceptions of need to improve economic performance.

Let us leave the subjective leadership speculation and close on a more objective note of the choice between sophisticated civilian investment and military hardware output. There may be a delay in the program for further buildup of the SS-9.[29] Commitments may not yet be made to a new round in strategic weapons buildup. On the other hand, the west Siberian oil-gas complex appears to be moving ahead. If these are viewed as competitive patterns of resource allocation and if at some point in the not too distant future some relatively irreversible decisions on allocations are necessary, this consideration may be so perceived by Mr. Brezhnev and acted upon. That is, to avoid overcommitment to two competitive nonconvertible patterns of resource commitment, Brezhnev may be inclined, by this logic, to direct resources from the potential military program to bring to fruition the civilian investment project. It is also possible he may act to reduce military manpower and to initiate economic reform, but these seem less likely courses of Soviet action in a possible reordering of priorities.

Thus, if the options open to the Soviet leadership are reduction of the priority for new strategic weapon systems, a cutback in military manpower, a withdrawal of party control, and involvement in the economy so as to permit economic reform, I would suggest that that is the order of likelihood of change. And even for a downward revision in priority for further military weapons buildup—my most likely candidate for change—not only the economic rationale must be persuasive but also the domestic political and international climate must be favorable to expect a break in the pattern of the past.

Chairman PROXMIRE. Please proceed, Mr. Leontief.

STATEMENT OF WASSILY LEONTIEF, PROFESSOR OF ECONOMICS, HARVARD UNIVERSITY

Mr. LEONTIEF. Senator, I accepted the invitation to take part in these hearings neither in the capacity of an expert on the Soviet Union—which I decidedly am not—nor as a person possessing special information on the Soviet Union's present state or future intentions, but rather as an interested and concerned citizen.

Being an economist, I have followed with great interest the economic and political development in the second largest power in the world and maintained professional contact with Russian economists and planners as I do with professional colleagues in many parts of the world.

As past member of a U.N. Committee on the Social and Economic Consequences of Disarmament and as a member of the American group at several Pugwash conferences, I had the opportunity to discuss the economic aspects of the disarmament problem with my Soviet colleagues.

Anticipating your request for brevity, I submitted, as you see, a less-than-three-page statement in which I tried to develop essentially only one line of thought. I feel justified in doing so because I believe that expertise alone does not solve major political problems. Our Vietnamese enterprise has been run by experts—military experts, foreign affairs experts, psychological experts, economic experts—and look where we are. Commonsense, good reasoning, is as important as expertise.

[29] New York Times, Mar. 8, 1971, p. 1, and Mar. 27, 1971, p. 1.

The following observations are addressed to the question of the probable Soviet reaction to a proposed reduction in the U.S. military expenditures.

(1) The Soviet Union gross national product is about half of that of the United States. As its population is much larger, the per capita income of Soviet citizens, that is, their standard of living, is less than half of what it is in the United States.

(2) Since it is the total rather than the per capita volume of their respective military expenditures that counts in determining the military balance between the two countries, and since, moreover, the productivity of labor and general productive efficiency is much lower in the Soviet Union than in the United States, the Russians are allocating now, and will have to in the foreseeable future, a much higher proportion of their total output of goods and services to military uses in order to be able to maintain proximate military parity with the United States.

This means of course that, in per capita terms, the burden of armament expenditure is much heavier in the Soviet Union than in the United States.

(3) Thus, if the United States and the Soviet Union were to reduce their armament expenditure by equal absolute amounts—so that the military balance between the two countries would still be maintained, but at a smaller costs to both—the standard of living in the Soviet Union would go up even more—measured in percentage terms—than in the United States.

If, for example, a bilateral 20-percent cut would permit the United States to increase its per capita nonmilitary consumption by 2 percent, the Soviet Union should be able to raise its (much lower) per capita civilian consumption, say by 4 percentage points; and of course it's the percentage change that counts.

This is on what Mr. Brezhnev's popular success or failure will essentially depend.

(4) Next to maintenance of military parity with the United States, and I emphasize the word "next," the imperative necessity to increase the civilian per capita consumption which apparently is still much lower than even, say, in Hungary or Czechoslovakia, seems to be the principal political concern of Soviet leadership. This has recently been confirmed by the fact that the newly inaugurated 5-year plan gives marked priority to the expanded production of consumers' goods over increased investment; that is, faster long-run economic growth. Considering last year's trouble in Poland, this is not surprising.

(5) Assuming—as the progress of the SALT talks seem to indicate—that the Russian military policies have as their principal aim maintenance of overall equality with the United States rather than attainment of the obviously unobtainable superiority—its reasonable to conclude that a gradual bilateral reduction in armament expenditures (including foreign military and paramilitary aid) would be highly desirable from the Soviet point of view.

Should this country embark on a program of gradual but steady reduction of its military expenditures, the Soviets can be expected. in my opinion, to follow suit. On the other hand, if we proceed to yield to the insatiable demands of our military the Russians will also follow suit. Let us not doubt their capability to do so.

The capability of their centrally planned economy to catch up with us in overall performance can be questioned—I question it very seriously—the ability of their authoritarian leadership to keep up with us in an armament race, irrespective of the sacrifices that this would impose on the broad masses of the population, should not be doubted.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you very much, Professor Leontief.

Mr. Hardt, do I take it that you share the view of Professor Leontief, and in a different way, of Mr. Harriman, to wit: if we do expand our military in any particular way, the Soviet Union is likely to be provoked to do about the same?

Mr. HARDT. I think the Soviet Union has been responsive in the past to increases, and I believe the first budget of President Kennedy was the closest that we have to that kind of an interaction. However, the process may not work in the other direction. That is——

Chairman PROXMIRE. I was coming to that. Good. You say the process would not work in the other direction to the extent that Professor Leontief says, for example: a gradual but steady reduction of military expenditures, the Soviets could be expected to follow suit. You do not agree with that?

Mr. HARDT. Not necessarily, and it seems to me that was one of the thrusts of my statement: that many of the things have to be conducive to that, and one of the things, and the central thing in the Soviet system is the perception of the leader himself and his ability, as well as his perception that he should move in the direction of reducing forces. That is precisely what Khrushchev apparently felt and that is the reason I suggested this parallel.

Chairman PROXMIRE. Well, you have given some excellent documentation for the need for a specific kind of investment: the Western Siberian oil fields. They need to keep the investment; they need it, and they are directly competing with the military, and if they do not move ahead with these they are in all kinds of economic problems and international problems because of the effect on their trade and their relationship with their satellites and Western Europe, and with the availability of funds with which to engage in big, essential goods for their military, too.

But, in spite of all that you do not seem to feel that if we ease the pressure—you are saying now that if we ease the pressure by gradually reducing our military expenditures, you say that they would not necessarily follow suit because there are other elements involved; is that correct?

Mr. HARDT. There are, indeed, other elements.

Chairman PROXMIRE. However, would you agree that there would be more of a tendency?

Mr. HARDT. Yes, indeed; more of a tendency.

Chairman PROXMIRE. For them to follow suit than if we did not, and if we combined that with negotiations, which I take it was Mr. Harriman's point, too. He is not saying that we should just unilaterally reduce our arms, but if we can combine this with negotiations they would be more likely to agree to a limitation with us; at least on strategic weapons.

Mr. HARDT. Let me restate this in a slightly different context. If, regardless of the logic of the pressing need of economic change, im-

provement of efficiency in terms of management or whatever, if the Soviet leadership felt that there was an increasing threat, whether it be from the United States or from the Chinese, which is perhaps more likely, then this factor probably would be overriding and the economic logic would not, therefore, be sufficient.

I think security, personal security as far as the leadership is concerned, state security, party security, these are the essential considerations against which these other factors may be important weights, but security considerations cannot be overridden. If Brezhnev feels he will not continue in his position in power personally, or if the party will be too adversely affected, or the fatherland were to be threatened, then I think other considerations become secondary.

Chairman PROXMIRE. Well, as far as we are concerned, to the extent, of course, there is China, which is a very serious military matter for the Soviet Union, but we represent at least a principle, to the extent that we ease up on our military expenditures, I would think that they would feel less threatened than if we do not.

Mr. HARDT. I would think there is a very good basis for negotiations, and I would be very hopeful that the negotiations will proceed, along the lines indicated, to take advantage of this opportunity.

Chairman PROXMIRE. Mr. Harriman spoke of informal negotiations, and I was not aware of them. I am sure other Members of the Congress perhaps were, but the kind of implicit negotiations going on in 1964–65, leading into an active agreement that we would both reduce expenditures or reduce our military budgets, and as they apparently did so, and we did not do so because of the Vietnam war; is this the kind of negotiations you have in mind or are you talking about a more formal SALT-type approach?

Mr. HARDT. Well, sir, one of the things I think is important is timing, and strategic weapons systems that start and have started—after the Cuban crisis in the early part of the decade—may have locked the Soviets in for a considerable number of years. Whereas they may vary their military manpower up and down for reasons that change over a given course of a year, they may have difficulty changing a pattern of commitment which has long leadtimes; for example, strategic weapons. In that sense I think the time is now right. If I understand it correctly, this is a very important time, because they may be between two buildups. If this is true, and I have suggested this as an assumption, then the importance of negotiations are much greater. The opportunities for developing some understanding with the Soviets in their own interests, not in the interests of negotiations, per se, but in their own self-interests, are greater now than they have been in, say: 1964, 1965 or other periods of time in the past. So, I think we have to keep in mind this time element of decision and negotiation.

Chairman PROXMIRE. Let me ask Mr. Bergson a question: You made a statement which I would like to get as precise a refinement of as I could. You said in your statement:

> Opinions have often been voiced in this country lately that our defense expenditures are inordinately large and should be cut. Some indeed advocate a reduction well beyond any that might result from our progressive withdrawal from Vietnam.
>
> I cannot react in any systematic way to such views, but I should note that I, for one, find little support for them in the account that I have set forth of Soviet defense expenditures.

Now, are you saying that any reduction in expenditures beyond the reductions we should get, and I presume we all agree from Vietnam, we all, I know, hope we can end the war, and this Senator will do all he can to achieve that, but aside and apart from that, do you feel that any other reduction of expenditures at the present time would be a mistake; or would you agree that we could make gradual, moderate reductions?

Mr. BERGSON. Well, Senator, in the previous discussion, attention has been focused on the question of whether there is a feedback from our defense policy to the defense policy of the Soviet Union. The question of whether we should initiate an appreciable reduction in our defense expenditures has been considered in these terms. It has been suggested that if we take a lead, the Russians may, indeed, be likely to follow. I am sure there is a feedback, but I, for one, and perhaps I am more cautious than some of my colleagues, my fellow citizens here, in questioning whether any unilateral cuts by us will rapidly be matched by unilateral cuts by the Russians. There is a feedback, but I find it rather difficult fully to understand the Soviet defense policy in terms of a feedback.

The Soviet Government is maintaining a very large and relatively modern Military Establishment. The question is: Is this simply a response to our very large and modern Military Establishment? I am sure that in part it is, but as I say, I hesitate to assume it is simply that. I find it very difficult, for example, to understand the Soviet buildup in Egypt and the Arab countries, and the Middle East generally, as a response to U.S. buildup. What we have seems more a response of the U.S.S.R. to something of a power vacuum.

There is an economic case for disarmament, from the Soviet standpoint. The burden of defense expenditures is very great. In any event, I am all in favor of exploring possibilities of an agreed reduction. I am somewhat hesitant, though, more than somewhat hesitant, to suppose that we could today initiate a large reduction and count on the Russians to follow us.

Chairman PROXMIRE. Well, let me say I do not think there is any prospect of all that large reduction in the sense I think we made a serious blunder after World War I and World War II in which we cut out, in which we virtually disbanded, our Army, Navy, and Air Force. There are few people in the Congress who suggest we should cut defense spending by more than, say, 8 or 10 percent. Maybe that is more than we shoud be thinking about. But, we are talking about, of course, that the Urban Coalition suggested $60 billion for the budget, and Senator Mathias and I offered, proposed to cut our budget down to $68 billion. It got some support in the Congress. If it were not for the fact that we proposed to cut outlays instead of obligation authority, and made it far tougher, therefore, for the Defense Department to comply, so we might have done much better.

Do you think that kind of reduction, if applied to future obligation, what you are talking about; is that it, or are you talking about a reduction of, say, to $50 billion in the budget?

Mr. BERGSON. Well, Senator, I do not feel that I have said anything today which would support such a reduction, and I must say that I am not persuaded that my——

Chairman PROXMIRE. You say such a reduction, and which reduction are you talking about?

Mr. BERGSON. We are now in the seventies still; is that not right?

Chairman PROXMIRE. Say we cut back from $76 to $68 billion, and that would be about a 10-percent reduction.

Mr. BERGSON. I just do not feel that evidence has been presented by me, or with all respect to my fellow witnesses, by them, to indicate whether and to what extent we may cut the defense budget of the United States. It is a very complicated matter, and I am afraid the discussion here, while illuminating, does not tell us the answer to it.

Chairman PROXMIRE. Well, what we have been doing, as I said in the beginning, when I discussed this with Mr. Harriman, we have been basing reductions on the arguments not that the Soviet Union is going to react in another way, and as a matter of fact, not paying much attention to the U.S.S.R. All my efforts and most of the people working with me on the defense budget has been on the grounds that the ABM has not been proved workable; that the B–1 bomber is something we do not need because the B–52, if brought up to date, and so forth; it can do the same job.

The aircraft carrier is something that is about as useful as the battleship. It is this kind of cut that we have been proposing: cuts in military personnel because they are wasted.

Now, you are not quarreling with that kind of approach, are you?

Mr. BERGSON. Senator, I am all in favor, as I am sure the great majority of the American people are, for restraint in this area, which means the exercise of wisdom and commonsense, to limit our expenditures wherever we can. All I was suggesting was that I do not find in Soviet behavior up to now a basis for a significant unilateral cut. There may be reasons for a cut such as you have indicated, very good reasons, and I am all in favor of their being explored and acted on where they turn out to be impelling. Beyond that, as I have indicated, I would like us to explore every possibility of joining with the Russians in cutting defense expenditures together.

Chairman PROXMIRE. It is not possible, Mr. Bergson, with this kind of thought being in the minds of the Soviets, perhaps, could you not make a strong case for it, that in the long run, the long run, and not very long—10 to 15 years, the Soviet Union might be better served to actually, from a military standpoint, to cut back their military?

For example, in these western Siberian oil fields, if they let that go, as they very well might do, they will be weaker 10 years from now militarily. If they do not improve their capability of producing steel and their capability of producing many other industrial products, they will be weaker. If they do not do something to get at their enormous manpower problem in the agricultural area, whereas I understand it, 40 percent of their manpower, 40 percent of their manpower has to work in agriculture, and as you know better than I do, compared to 6 percent of our manpower, if they do not do something about that kind of economic situation, they are going to be a much weaker country 10 years from now than if they do.

So, looking at it from a little broader perspective, and looking at it from their standpoint, it would seem to me you could make a strong military case for the Soviet Union cutting back some of their military, at least at the present time and trying to channel it into the economic development.

Mr. BERGSON. Well, Senator, they face a very tough problem. Their economy is big, but it is still not of American dimensions, and they must make very hard choices. The choices are of the sort you suggest: between investment for growth, defense, and consumption. I do not wish in any way to suggest that the Russians have not in some degree in the course of time been modifying their priorities. I think they have, and in a way which I feel is important for us.

There has been a significant shift in the direction of consumption, at the expense of investment for growth. The Government has, I feel, acquiesced in a somewhat lower rate of growth in the interest of assuring more balanced growth.

Chairman PROXMIRE. You see right there is not the consumption element to a consideration in the growth, to the extent that they do not provide this, there is less incentive?

Mr. BERGSON. Right; absolutely.

Chairman PROXMIRE. So, there may be less growth if they had a more Spartan policy.

Mr. BERGSON. Now, Senator, they have been adapting their priorities in this way, in the course of time, and the result is, I think, manifest in a somewhat lower rate of growth and a more balanced growth with consumption rising in step with output. This is as distinct from what happened under Stalin where consumption did not rise at all in proportion to output.

Now, while this shift has been occurring, the Government has apparently not yet been willing to make any large sacrifice in defense expenditures. On the contrary, in recent years it has allocated additional resources to defense. Well, this is the situation.

Brezhnev has said that in the next plan, consumption will have first priority, and on the whole I think we should not discount this altogether. To some extent it may represent propaganda, but the views of the leaders have evolved and are continuing to evolve in this regard. Nevertheless, growth is to be maintained at the somewhat reduced rate, and defense is to be strengthened. The Government is counting, as I have indicated, on a rapid increase in productivity so that it can do all these things at once.

Well, maybe productivity will not rise so rapidly, and then some very hard choices will have to be made.

I agree with a good deal of what has been said. In other words, that there is, that the Soviet defense burden is very onerous. There are pressures to limit it, but I come back to the notion that I do not see a sizable unilateral cut on our part as the formula for bringing about a cut on theirs.

Chairman PROXMIRE. I do not think anybody here is talking about a sizable unilateral cut. I would agree with that. We are not talking about $50 billion or even $60 billion in the budget. I think that a $68 billion budget might, in a sense, be a mistake, unless as you say, it is related strictly to reducing the excessive waste and so forth.

Mr. BERGSON. Right; right. I think in these terms primarily.

Chairman PROXMIRE. Now, Mr. Harriman, you have had a chance to hear these experts, and particularly I would like to have very much your reaction to the contention as to whether or not a reduction in our military effort would achieve some reduction, favorable reduction or reaction from the Soviet Union.

Mr. HARRIMAN. Mr. Chairman, I have tried to emphasize the fact that what has been proposed from the Pentagon, which is an increase in our capability, will get a reaction for an increase in the Soviet expenditures. I have not suggested that if we unilaterally make cuts in our expenditures that there will be an automatic cut in the Soviet expenditures. There is a big difference between the two. I do think that conversations along those lines could well be undertaken, and, Mr. Chairman, I did not intend to indicate that there were agreements between us and the Soviet Union prior to 1965 about the reduction——

Chairman PROXMIRE. If I said that I misquoted you. It was kind of an understanding?

Mr. HARRIMAN. There were talks about it; there was a discussion that possibly we would both mutually reduce our expenditures and Kosygin said he was very much disappointed that that was not carried out. So, I agree with what Mr. Bergson says. I do not think that there would be an immediate reduction by the Soviets in expenditures. Our belligerent attitude that comes out of the Pentagon on the need for these new weapons of all kinds, including those not in the nuclear field, I am sure has an influence on the other side, even talking about it. It strengthens the hardliners in the Soviet Government.

But, I do want to point out also that in talking to the Soviets they indicate that they have two fronts: the United States and the China front, and we do not know what their problems are with China or why they feel that they have to maintain in such a substantial force on the border of China. That is why I emphasize the strategic and highly sophisticated weapons as having an influence on them. I must suggest we must be very careful, sir, in not giving Moscow the idea that we are now moving toward better relations with Peking in any way to play Peking against Moscow. If we do that it will be extremely dangerous, and that is one of the things which I hope that the President will bear in mind in connection with the move he is making.

I applaud his indication that we should improve our relationship with China, and should abandon the attempt to isolate China. But I think this move has lead to grave concern in Japan, which is a very important friend of ours in the Pacific, and we should not trade that or fool with that in any way.

Moscow is now sensitive to this subject, that we might gang up with China against them. These are political straws in the air that are extremely dangerous unless they are clarified. Also I do think the Congress has a right to know something about what the President has in mind talking to Mr. Chou En Lai about when he goes to Peking. Mr. Chou En Lai has been quite frank in stating the conditions which he is going to lay down to President Nixon before we can formalize our relations, and if he is able to talk publicly I do not see why the President of the United States cannot talk publicly. These are things which have enormous influence on the Soviet behavior and their suspicions of us. What we are trying to do has a very material effect, but I do want to agree with Mr. Bergson that a cut in our budget would not necessarily be followed by a cut in theirs.

I do suggest, sir, that an increase in our sophisticaed weapons will lead to increased action on their part.

Chairman PROXMIRE. In a way that kind of freezes us for the present at more or less the present budgetary level. If we increase, they increase; and if we reduce they will not follow suit.

Mr. HARRIMAN. I agree with that; I agree with Mr. Bergson on that. On the other hand, talks with them on the manner in which we can reduce our forces is the way, I think, to get action on their part. And restraint on our part will lead to restraint on theirs, in my judgment.

On the other hand, in the Middle East, as Mr. Bergson said there is a critical situation that exists between Israel and the Arab countries. The Soviets have admitted very frankly they are going to support the Arab governments. They are not going to permit another 6-day war humiliation, if they can possibly prevent it. These are things which they have in mind, in addition to which they have their concern over China.

Chairman PROXMIRE. What you are saying is that there is a whole package involved here, that if we hold down our military budget or moderately reduce it, that may not get any response, any favorable response from them at all, especially if we are acting in a provocative way toward them with regard to China, or especially if we are acting in a way they consider to be hostile in the Middle East? So, we have to work in all of those areas; is that correct?

Mr. HARRIMAN. Mr. Chairman, I have emphasized the importance of ending the war in Vietnam, not only because of the reduction in expenditures, but also the belligerent attitude of the United States in that case. If we continue to believe that we can go into Vietnam and impose a military government on the South Vietnamese people, and if that is to be our general attitude to the world, we are going to have adverse reactions from the Soviets. And I do want to emphasize that in my opinion their military security comes first in the Soviet Union, and that even though there may be other economic pressures they are still able to control them. So that our attitude, both toward international agreement, and toward peace generally in the world, is of very great importance. I emphasize that the war in Vietnam has a very vital and first importance.

As long as we are fighting in Vietnam, as long as we are attempting to impose a military solution in Vietnam it will be very difficult to get the Soviets to believe we are engaged in a peaceful action. I am sorry to emphasize Vietnam so much, but——

Chairman PROXMIRE. No, sir. I have neglected the most important element in the picture, which you say is Vietnam, and I think you are right.

Mr. HARRIMAN. You are dealing with priorities, sir; and to me the first priority in both the political as well as the military field, is to end this war in Vietnam, and that can be done responsibly and should be done, and I do urge the Congress to bring pressure on the administration by controlling the expenditures for military actions in Southeast Asia.

Chairman PROXMIRE. Now, I would like to ask you, Mr. Leontief, and your colleagues might also want to join in on this: On July 15, the New York Times carried a story by Bernard Gwertzman on "Soviet Details 'Conspiracy' Behind Pentagon Papers." The story summarized a report appearing in the Soviet press purporting to explain why the United States printed excerpts from the Pentagon papers. According to the Soviet report the publication of the Pentagon

documents did not indicate that there was such a thing as "free press" in the United States.

Instead, according to the article, the publication resulted from a split between the ruling American monopolies, and it then goes on in the New York Times account to explain in the most fantastic, unbelieveable, and erroneous way how the American system operates.

My question is, with all due respect, whether American experts on Soviet affairs have a better understanding of them than do Soviet experts of American affairs? Is it possible that both sides have a kind of mythical and demonological view of one another?

Mr. HARRIMAN. There is an awful lot that appears in the Soviet press that is propoganda and nonsense. Very few educated people in the Soviet Union believe it. There is a credability gap that exists in the Soviet Union between public statements even more pronounced than exists here. So I do not think you can take seriously statements in Pravda or Isvestia as being a statement of what the government thinks. It is an indication of what they would like to have their people believe—a conditioning of their people to undergo sacrifices in order to maintain their security. This whole question has been going on for a long time in the Soviet Union, and I want to emphasize the fact that even in the Soviet Union the truth does eventually percolate through. Our behavior has to be somewhat less belligerent, and our rhetoric has to be somewhat less belligerent than it has been in order to get a parallel reaction on their parts.

Again I want to emphasize that they consider in the government two fronts: one is the China front, and it is very hard for us to know how they consider that China front as it affects their security.

Chairman PROXMIRE. Let me ask Mr. Leontief this question because it was not in Pravda, this was in a scholarly journal, and the New York Times report says it represents an offense on sophisticated Soviet Marxist thinking on how America is ruled. Similar articles are printed regularly in scholarly Soviet journals dealing with countries.

My question, Mr. Leontief is: since they have such distorted, erroneous views of how our thinking moves and why we do what we do, do you think they may be similarly deceived?

Mr. LEONTIEF. Yes, Senator. My feeling is that in case of doubt the best thing is to assume that on very serious basic problems, of war and peace, prosperity, disarmament, standard of living that this is, by the way, not peculiar with the Soviet Union. We have some problems of this kind here, too, and the best assumption is that the other fellow thinks approximately in the same terms in which you feel.

On the other side, the official ideologies are different; consequently we are probably posing as very different in the two countries and in the Soviet Union, where it is easier to explain the development here in terms of opposing groups, if not groups of the proletariat, and capitalists, and different groups of capitalists. That is the formula we use.

I suppose, after all, obviously we have a free press, and the Communists do not like it, but we still have it. That is a fact.

So far, if you will permit me to continue a little bit on the problem of disarmament, the situation is very complicated and it will not become simpler. If we refuse to undertake some actions because the situation is complicated, we will not act, so I would present the following thought: with pressures for reduced burdens of arms in the Soviet

Union being greater than it is in this country, economic pressures, the standard of living is low, and even with political quietness in the Soviet Union, this in part depends on a possibility for the Government to increase somewhat the level of consumption.

I quoted in my testimony the Polich example, which is better even than the Soviet Union, and I would compare it in its strength to the Vietnamese lesson to us on the military enterprises. We are learning our lesson, I hope, in Vietnam. I am sure we are learning the lesson of the necessity to improve the standard of living, particularly when Western Europe is going down, and where the Russian people cannot help but notice.

Chairman PROXMIRE. Mr. Hardt, Mr. Harriman has mentioned concern that the Russians have a very deep concern about the Chinese and about the threat of the Chinese. Of course, they have had border clashes, and part of the Soviet military has to be concentrated on China. I think we are inclined to evaluate their whole military establishment as designed to counteract those. In fact, there have been press reports that some 40 Russian divisions are on the China border. I would like your opinion as to whether or not we in our own strategic thinking in the United States, tend to underrate the threat China is posing to the Soviet strategists?

Mr. HARDT. I think we do, Senator. I think this fits into the thrust of your previous question in the sense of how we look at them and how they look at us. We tend to look at the China border and to the Chinese capabilities in a somewhat clinical fashion. Whereas if we were to think of the Canadian situation as being comparable to the Chinese threat to the Soviet Union, with the same number of forces, the same long enmity, and much uncertainty, then I think we should have a little different view of the China threat as seen by the Soviets. We tend to take too lightly the Chinese concern of the Soviets, and by taking it lightly we tend to undervalue one of the major factors in their thinking.[1] When we think of their military structure, as you have indicated, there is not only the China border, the Middle Eastern problem (that Professor Bergson mentioned), there is also the problem of the control of the Soviet Union and the East European countries. There are, in short, a number of other factors other than the United States which give rise to the military establishment and you do well to keep them in mind. The Soviet threat should not derive from a symmetrical approach, i.e. we do one thing and they respond and vice versa. It is a much more complicated, different process on our side and on their side. On a related point, hopefully, we will withdraw from Vietnam, but unfortunately, from the Soviet standpoint, they cannot withdraw from China. The Chinese border and its threat may be permanently there.

Chairman PROXMIRE. What you are saying is that the Chinese represent a threat to Russia, and they represent really no threat to us, if we are out of Vietnam? After all, the Chinese are an enormous Asiatic power just in manpower alone. They have an economy far weaker than ours, and far weaker than the Russians, but I do not understand how the Chinese can possibly represent a threat to us if we are out of Vietnam, but they do represent a threat to Russia.

[1] Cf. J. Thomas, "Soviet Foreign Policy and Conflict Within the Political and Military Leadership," Survey, autumn 1971.

Now, with that in mind it seems to me we get a new perspective on the response for Russian military budget that may be almost as big as ours; that to be concerned, they have to be concerned with us, No. 1; No. 2: they have to be concerned with a long border with the Chinese, and tying up, as I say, 40 divisions on that border. We have the huge Pacific, and the great naval superiority to protect us. Does that not suggest that they are smaller in military budget, and you seem to agree it is smaller, though not much, and represents in a sense a lesser military force, vis-a-vis the United States, more than ours does vis-a-vis them?

Mr. HARDT. You are suggesting our multiple commitments and theirs and singling out one part of our budget and comparable part of their budget that is uniquely related. That is too difficult for me.

Chairman PROXMIRE. On the assumption we can do as Mr. Harriman has pleaded with me so hard this morning and I am sure you gentlemen probably agree, that we should get out of Vietnam. If we are out of Vietnam, then what kind of a military posture do we have vis-a-vis the Soviet Union?

You see, what I am saying is the Soviet Union has to worry about two great powers, and the United States one, because the Chinese do not represent a threat to us if we are out of Vietnam; is that right?

Mr. HARDT. Much less than they do to the Soviets. No major threat, certainly.

Chairman PROXMIRE. One other question for Mr. Bergson. I am somewhat puzzled, Mr. Bergson, because you seem to vacillate between a belief that the Soviet Union will allocate more resources to its civilian structure and reduce its military outlays, and you also believe they will not shift their priorities. Can we make a firmer judgment about the Soviet intention or the nature of the case, or are you satisfied with the conclusions you have reached?

Mr. BERGSON. Senator, up to now they have been modifying, shifting priorities among principal ends: investment for growth, defense expenditures, and consumption, the civilian sector. So far the investment and growth have been sacrificed to some extent in the interest of consumption, but there has been no sacrifice of defense. Defense has increased more or less with the growth of output. The Government has accepted a reduced rate of growth in the interest of a more balanced growth, with consumption growing with total output, but it has not been prepared to make any large sacrifice in the defense establishment.

Now, as I have indicated, I take seriously the Soviet concern to continue to raise the living standard. This is a central aim of the plan. The Government probably will, in fact, make a real effort in this area. I do not think this is just simply the old style propaganda ploy. The commitment to raise the living standards is very real. The question is just how far the Government will go in this direction if productivity does not rise as planned.

Chairman PROXMIRE. Maybe we would have a better understanding of how far they would go if we understood the reasons for it. Why, in your view, is the leadership interested in raising the living standard and consumption? You would think on the basis of their theory of the world revolution, if they believed in it, that this would be the lowest priority.

Mr. BERGSON. Well, their reasoning, Senator, probably takes into account a great many forces. There is the concern to provide incentives to the people, which you refer to. That I think is very real. There are, though, larger political concerns. The Soviet population is now relatively literate. There are elite groups who have aspirations to live better. My impression is that the pressure to provide higher standards, even in this still very authoritarian environment, is very real to the Government, and it is politically difficult for it to ignore. I agree with Professor Leontief that the Polish events of the last year underline the significance of these pressures for the Government. What the Government has not done so far is to significantly cut military expenditures in the interest of satisfying these pressures. It has rather tended to go a bit light on investment and growth, sacrificing the future potential, if you like.

I would hesitate to assume that under the new plan the Government will significantly cut military expenditures on its own. This would represent a more drastic reordering of priorities than we can reasonably expect. There has been a reordering, but this would carry it further, much further, and it would be difficult to count on that. As I say, the Government hopes to avoid the crunch by raising productivity and sort of enlarging the whole pie so that it can satisfy all claimants. That may not be so easy to do, and it may have to make the kind of hard choices we are discussing, but I rather doubt that we could count on defense to be sacrificed in any serious way as a part of this process in the next years.

Chairman PROXMIRE. Let me try——

Mr. BERGSON. Let me say, referring to an action taken independently by them, I not only agree, but I stress their interest, possibly, in joining with us in measures that would result in a reduced commitment by ourselves as well as by them.

Chairman PROXMIRE. Well, what you just said at the end then is that you think that it is possible and feasible for them to reduce military expenditures, but only on the basis of an agreement?

Mr. BERGSON. Well, I think essentially that.

Chairman PROXMIRE. You see, it is so hard to get an agreement that goes much beyond nuclear testing, or some kind of strategic arms limitations, and it seems to me to agree on the size of the budget, how in the world can you do that?

One of you, I think it was Mr. Harriman, indicated we are the larger; we are the more productive; we are the more sophisticated; we are in the position where we could take the initiative. We cannot very well expect them to take it, and if we are going to break through this, and we are going to have to then provide an atmosphere in which arms reduction is possible, by ending the Vietnam war, which is No. 1, and I wonder if we cannot also take some initiative in some limited, moderate gradual reduction in military expenditures, or do you still feel we have to wait for some sort of an action on their part?

Mr. BERGSON. Well, Senator, I should not like to dismiss the possibility of a piecemeal approach which Mr. Harriman pioneered. At a time when that did not seem at all promising, and he led the way.

Chairman PROXMIRE. He did brilliant work, and I think we would all agree, and I think Mr. Harriman would agree that you are pretty limited on that kind of thing. You can have a test ban, and you did,

and you can adopt a nonproliferation treaty or develop an agreement on strategic arms, although with the MIRV's I am not so sure we can even do it there. But, beyond that enforceable agreements are difficult.

Mr. BERGSON. I am not an authority on many of the matters we are debating. I would hope that some kind of balanced forced reduction in Europe would not be precluded, and this might be another step in this direction. Beyond that, as I have indicated, I think everyone must applaud the efforts to assure restraint on our part, and reductions or limitations which are based on a careful sifting of our defense demands to assure that the money is being wisely used, but without necessarily hoping that the Russians will match that particular kind of cut. These seem to me to offer promise for the future, for the near term.

Chairman PROXMIRE. Well, gentlemen, I want to thank you.

Mr. HARRIMAN. May I just say this, Mr. Chairman?

Chairman PROXMIRE. Mr. Harriman.

Mr. HARRIMAN. Mr. Chairman, when I spoke of expenditures I do want to underline the fact that it is my very strong judgment that in the nuclear field, which runs into vast sums of money, we have adequate stability and there is no reason for our going ahead. If we would only really exercise restraint, and stop the deployment of MIRV's and stop the deployment of ABM's, we will get a reduction on the other side.

But, I did not want to indicate if we cut back our military forces by a certain percentage that that would automatically get a reaction. We must be specific in what we are doing and if we can control our military expenditures in the nuclear field, specifically, so that the Soviets understand what we are doing, and that we except them to follow suit, it is my judgment that they will.

Chairman PROXMIRE. That is a most helpful refinement in definition, and I did not mean at all to belittle the cutbacks in the nuclear fiield which is enormously expensive, and it would be very advantageous, as I say. I was just pushing to see if there were other areas.

Gentlemen, thank you very much. It has been most helpful.

The subcommittee will meet tomorrow in this room to hear Mr. Richard Davies, Deputy Assistant Secretary, Bureau of European Affairs, Department of State; Richard R. Nelson, professor of economics at Yale University; and George Rathjens, professor of political science at MIT.

The subcommittee stands in recess.

(Whereupon, at 12:40 p.m., the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, August 10, 1971.)

THE ECONOMICS OF NATIONAL PRIORITIES

TUESDAY, AUGUST 10, 1971

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON PRIORITIES AND
ECONOMY IN GOVERNMENT OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:20 a.m., in room 1202, New Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Also present: John R. Stark, executive director; Loughlin F. McHugh, senior economist; Richard F. Kaufman, economist; Lucy A. Falcone, research economist; and Walter B. Laessig and Leslie J. Bander, economists for the minority.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

Chairman PROXMIRE. The subcommittee will come to order.

This morning we will continue our hearings on national priorities by taking a closer look at the Soviet economy. We are particularly concerned with the relative rates of spending and progress in military and military-related research and development between the United States and the Soviet Union.

One of the most persistent lines of argument in support of the increased defense spending rests on the need to maintain technological superiority. Spokesmen for the Department of Defense have recently asserted that the United States is in danger of being overtaken in the field of military technology by the Soviet Union. It has been alleged that the Russians are now spending at the rate of $3 billion yearly more than the United States for military research and development purposes.

The same spokesmen created the fear that if these relative spending trends continue, the United States will be subject to a technological Pearl Harbor. We are in the process of making arrangements to receive testimony from spokesmen for the Pentagon. We expect to schedule Defense Department witnesses to testify in these hearings after the August recess, and we will make announcements when those arrangements are completed.

We are very pleased to have with us today three experts well qualified to discuss these issues.

Richard Davies has been a career Foreign Service officer since 1947 and spent 16 of his 23 years in the Foreign Service working in the Soviet Union and Eastern Europe and in positions in Washington and Paris dealing with Soviet and Eastern European affairs.

He served as political officer at Warsaw from 1947 to 1949; Moscow, 1951 to 1953 and 1961 to 1963; and on the international staff of NATO in Paris in 1953 to 1955; and as public affairs adviser in the Offices of Eastern European Affairs, 1958 to 1959, and Soviet Union Affairs, 1959 to 1961 in the Department of State.

In 1963, following his second assignment to Moscow as political counselor, Mr. Davies was detailed to the Senior Seminar in Foreign Policy at the Foreign Service Institute.

In 1964, he served as Deputy Executive Secretary of the Executive Secretariat in the Department. From 1965 to 1968, Mr. Davies was Assistant Director for the Soviet Union and Eastern Europe in the U.S. Information Agency. In 1969, he became a member of the State Department's newly formed planning and coordination staff, with responsibilities for U.S. relations with the Soviet Union and Eastern Europe.

Mr. Davies assumed his present duties as Deputy Assistant Secretary of State for European Affairs in August 1970.

Richard Nelson is a professor of economics at Yale University, where he received his Ph. D. in 1956. In the past he has been on the staff of the Rand Corp., taught at the Carnegie Institute of Technology, and served as an economist with the Council of Economic Advisers.

George Rathjens received his Ph. D. from the University of California at Berkeley. He served as Staff Assistant to the President of the United States for science and technology in 1959 and 1960; was Chief Scientist for the Advance Research Projects Agency in the Department of Defense, 1961 to 1962; served with the Arms Control and Disarmament Agency in 1962 to 1965; was Director of the Weapons System Evaluation Division of the Institute for Defense Analyses from 1965 to 1968; and has been professor of political science at the Massachusetts Institute of Technology since 1968.

We are very grateful to you gentlemen for appearing, and Mr. Davies, would you lead off. You have an excellent prepared statement that I have just had a chance to read. It is almost 30 pages long and I would appreciate it if you could summarize it, and the entire prepared statement will be printed in full in the record.

STATEMENT OF HON. RICHARD T. DAVIES, DEPUTY ASSISTANT SECRETARY FOR EUROPEAN AFFAIRS, DEPARTMENT OF STATE, ACCOMPANIED BY HERBERT BLOCK, ECONOMIST AND SPECIAL ASSISTANT, OFFICE OF RESEARCH AND ANALYSIS FOR THE U.S.S.R. AND EUROPE

Mr. DAVIES. Fine. Mr. Chairman. I would just excerpt the prepared statement in the interest of saving time.

I would like to introduce first of all, Mr. Herbert Block, an outstanding economist and special assistant in the Office of Research and Analysis for the U.S.S.R. and Eastern Europe in the Department of State.

Let me turn first to the problem of resource allocation in the Soviet economy, keeping in mind the technological aspects in which you are interested. It is appropriate to start with a few short remarks on the Soviet defense burden. I wish to do this not only because of our eminent

interest in this issue, given the interaction of Soviet and U.S. policies, but also because in Soviet thinking defense has precedence on principle. I would like to stress the words "on principle."

While the Soviet leaders are willing and eager to feed the proud superpower they are heading and likewise anxious to keep their military establishment content, they will not necessarily endorse every military and space project submitted to them. In the U.S.S.R., as everywhere else, it is the project on the margin that engenders conflict among the military or among the civilian leaders or between the two groups.

Previous hearings have been devoted to the size and composition of Soviet military and space expenditures and to the intricate problems of their measurement. I refer, as one example, to the testimony of Mr. David E. Mark, Deputy Director of the Department's Bureau of Intelligence and Research, on June 24, 1969. There is, moreover, that excellent volume your committee published last year under the title "Economic Performance and the Military Burden in the Soviet Union." I do not wish to repeat what was said and written a year ago or two, nor has there since been a major change in Soviet developments or the way in which they strike a Western observer. (Statistical estimates undergo, needless to add, continual refinement and correction.)

What has changed since Mr. Mark's testimony is the trend in American defense spending. In real terms, i.e., after taking account of price increases in this country, U.S. defense outlays have declined, while, if our reading of the U.S.S.R.'s defense expenditures is accurate, appropriations on the Soviet side have increased.

Given the reduction of the American defense effort in the recent past, always keeping price changes in mind, we arrive at the conclusion that, when valued at American prices, the Soviet package of military and space goods and services is probably slightly smaller than the corresponding U.S. figure. The cost of Soviet military R. & D. and all space programs, when expressed in American prices, appears now to exceed American spending. Finally, when we compare U.S. defense spending with the U.S. GNP, in dollars of course, and Soviet defense spending with the Soviet GNP, both in rubles, we find that the share of defense in the resources available is roughly the same in both nations.

Let me briefly point to the difference between these two measurements.

In the first of the two comparisons, Soviet defense goods and services procured in the course of 1 year are valued at the cost similar goods and services command in this country. There is much merit in such a comparison, provided we are anxious to obtain a rough power ratio of the two military establishments. It rests on the assumption—a rather large one—that costs are a yardstick for the power ratio.

There are, of course, other factors; namely, plant and equipment and inventories accumulated over the years, and important intangibles which are likely to affect the balance, such as generalship, morale, or inventiveness. But there are enough difficult problems in assessing the goods and services procured in one country in the prices of another. By costing the military personnel of the U.S.S.R. at American rates of pay and maintenance, we hypothesize that the productivity (or, if you please, the potential destructivity) of the same number of men is equal in the two countries compared.

Quality differences also enter the hardware comparison. This is a particularly ticklish issue in R. & D. comparisons. Some instrument or procedure may cost relatively much in a technologically backward country—in fact, may not be available because of a lack in sophistication. But unsophisticated equipment is sometimes very effectively used in equally unsophisticated hands.

I mentioned a second comparison; namely, that of the relative shares of defense in the resources of which the two countries avail themselves in a given period. To use two crude examples: if the United States with a GNP of $1 trillion should spend $80 billion on defense and the U.S.S.R. with a GNP of 300 billion rubles should appropriate 24 billion rubles—the figures are arbitrary—then the defense burden would be the same in both countries; namely, 8 percent of GNP. But an expenditure of 8 percent for a largely unproductive purpose is more of a nuisance for a country with less than half the national income than for the richer nation. Conversely, it is true that the gains from disarmament would be greater in the less affluent country than in the one that is better off.

Although the percentage comparison may only inadequately measure the relative burden of defense in two countries, it performs the service quite well when we compare two relatively close years in one country. Such a comparison for the Soviet Union appears to show that, in recent years, absolute defense spending has grown, with a substantial increase in the armed might of the U.S.S.R., but that, at the same time, the share of defense in the national income has somewhat receded.

This trend may well continue in the foreseeable future. It may continue as long as the international situation remains unchanged. It ought to continue, because other requirements are pressing, chief among them the quest for improved living conditions and for more rapid technological progress in all but the most preferred sectors of the defense establishment. These two very broad requirements were given prominence in the draft directives for the 5-year plan 1971–75, endorsed by the 24th CPSU Party Congress 3 months ago.

The pronouncements of the leaders about the plan at and about the time of the party congress stressed these same priorities for consumer welfare and technological progress. And, indeed, the might and influence of a nation do not rest on armaments alone, but also on the morale of the population—which is likely to be a function of living and working conditions—and on the general level of technology outside the narrow circle of tanks and missiles.

Let me say first a few words on consumer welfare in the context of the issues under discussion. On principle, communism is not ascetic, though, at one time or another, there have been leaders and parties preaching austerity and preferring selfless enthusiasm to material incentives. Such an attitude is an exception in the latter-day U.S.S.R. Almost all the Soviet leaders have recently expressed concern for the consumer and for the worker in particular. Such expressions of concern have notably increased in number and intensity in the wake of the Polish strikes and riots of December 1970. These Polish events have reverberated throughout the U.S.S.R. and Eastern Europe for two reasons. First, it was the workers who demonstrated against "the workers' state," the proletariat who questioned the dictatorship operated in their own name.

Second, the demonstrations showed that, after years of involuntary mass meetings, the workers had acquired an organizational ability which, in case of need, they could use in their own behalf—spontaneously, to use a word Communists dislike intensely.

I mentioned that, aside from the undisputed preference for defense, consumer-welfare measures and technological progress have been given priority treatment in recent Soviet pronouncements on economic policy. I also spoke briefly about the conditions that explain the current preoccupation with consumption requirements. Consumer-oriented programs run easily into difficulties in the Soviet economy, usually difficulties of a practical type, sometimes those of an ideological kind. But technological progress is not controversial in an ideology that makes the "productive forces" the prime mover of history.

General Secretary Brezhnev, addressing the 24th CPSU Party Congress on March 30, 1971, admonished the party to "study the new processes in the capitalist economy taking place particularly under the influence of scientific-technological development."

This quotation is one of many oblique references to what is believed to be a growing technological gap between the advanced countries of the West and the U.S.S.R. Soviet spokesmen acknowledge it by reiterating the need to reach the so-called world scientific standard. If and when they are able to express themselves, critical spirits in the U.S.S.R. are more outspoken. The letter of academician Sakharov, physicist Turchin and historian Medvedev "to the leaders of party and Government," March 19, 1970, puts it as follows:

> The newer and more revolutionary an aspect of an economy is, the greater is the gap between the United States and ourselves. We surpass America in the mining of coal but we lag behind in oil drilling; lag very much behind in gas drilling and in the production of electric power; hopelessly lag behind in chemistry, and infinitely lag behind in computer technology. The latter is particularly essential because the introduction of computers in the national economy is of crucial importance for fundamentally changing the whole look of the system of production and of the whole culture. This phenomenon has deservedly been called the second industrial revolution. Incidentally, the capacity of our inventory of computer machines is hundreds of times less than in the United States, and as for the use of computers in the economy, here the gap is so wide that it is impossible to measure it. We simply live in another epoch.

There exists no simple yardstick for measuring a technological gap, quite apart from the secretiveness shrouding Soviet performance. Much of the evidence is impressionistic and in the nature of appraising Soviet equipment at intervals and finding it a growing number of years behind, say, similar U.S. equipment.

Within limits, the relative level of technology is indicated by longer range factor productivity comparisons. They show that Soviet output per unit of capital and labor advanced in relation to the—by far superior—United States in the 1950's, but declined in the 1960's.

If Soviet technology trails behind that of the advanced countries of the West, above all the United States, it is not because the regime is stinting. Two interrelated methods of using the country's resources for growth and progress are investment and R. & D. outlays, and they have beeen amply endowed.

Comparing the change between 1950 and 1970, Soviet new fixed investment increased sixfold, and outlays for "science" thirteenfold, while the GNP tripled. These figures gain perspective in an international context. In the United States, new fixed investment, private

and public, increased by 75 percent, R. & D. and space expenditures went up fourteenfold to fifteenfold, whereas the GNP doubled. All these statistics—which are, of course, in real terms—must be taken with a pinch of salt. For instance, there are indications that U.S. investment data have a downward bias.

It would probably be safe to assert that in the long run American investment and GNP grow at roughly the same pace, disregarding cyclical fluctuations and other shorter-term factors. Investment abroad, not included in the investment figures used but rendering yields into the GNP, complicates matters further. Even so, the comparison shows, first, the enormous size of the Soviet effort and, second, its relative inefficiency.

The ratio of capital input to GNP growth is by far greater in the United States than in the U.S.S.R.—particularly in the 1960's when a prosperous America increased its GNP by an average annual 4½ percent, with investment increasing by 4¼ percent, and against corresponding Soviet figures of slightly above 5 and 6.7 percent.

Japanese figures for the 1960's show the well-known surge of the GNP, coupled with a moderately steeper increase of gross fixed capital formation and R. & D. expenditures. In short, given the costs of investment and innovation, Soviet GNP should grow not in the neighborhood of the U.S. growth rate, but closer to the Japanese rate of development. In fact, however, it does not.

In conclusion, Mr. Chairman, I should like to add the following to what I have said and to the text of my prepared statement.

In considering the Soviet economy and comparing it with the American economy and in attempting to reach judgments about the power ratio between the two superpowers, it is important, I think, to avoid drawing conclusions on the basis of data which may not necessarily be relevant to our primary concern. In my statement, I used the figure of two runners. Let me switch the metaphor here. Competitors in the decathlon must be able to compete in 10 different kinds of track-and-field endeavor. The best decathlon champions are outstanding as individual performers in only a few of these events and rarely equal the records set by athletes who dedicate themselves exclusively to any one of those 10 events. A decathlon competitor would not be expected to compete on equal terms with an athlete who, let us say, had specialized in pole vaulting—nor does he try to.

The Soviet Union does not compete effectively with the United States or other advanced industrial states in all the indexes by which we measure our economic growth and success. Nor does it try to. It concentrates a disproportionate share of its national resources—and here I refer particularly to that scarcest and most valuable of resources: trained manpower—on defense and defense-related R. & D.

In the indexes of national power which are regarded as determining in the world political arena, the Soviet Union is indisputably a superpower—the other superpower.

The first prblem before us is that of competing effectively in that arena with the only other nation-state which, at this stage in history, approaches us in strength. If the principal significant competition is putting the shot, we must be specialized in putting the shot. The second problem is that of changing the nature of the competition. That is the longer range problem. We are making progress toward solving

it. But we can only hope to achieve that long-range goal if we stay in the game.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you very much, Mr. Davies, and thank you for a most skillful summary.

(The prepared statement of Mr. Davies follows:)

PREPARED STATEMENT OF HON. RICHARD T. DAVIES

Mr. Chairman, distinguished members of the Joint Economic Committee, I welcome this opportunity to appear before your committee. Quite apart from the eminent and unique role the committee plays in the affairs of this country, it performs a notable service by bringing out the series of volumes on the Soviet and other Communist economies and by conducting hearings in this field. Through these publications and hearings, the committee informs and educates American public opinion—in fact, public opinion in many countries. It contributes greatly to the scholarly study of the Communist world. It even enlightens some Communist officials to whom their Governments do not make available the facts and figures Western society takes for granted, and who are not permitted freely to debate the economic problems, options, and policies of the societies in which they live. This does not mean that conflicts over resource allocation, reorganization, and reform are absent in the Soviet realm. They do exist, but they are conducted in secret. The muffled voices of dissent reach the public only occasionally in the form of vague rebuttals to unnamed critics.

When we focus on the economic issues facing the Soviet Union, we are far from denying that there are problems in the Western World or in this country in particular. How could we, since those problems are substantiated by facts and figures and are openly discussed from every possible point of view? Thus, as you well know, the U.S. gross national product dipped by two-thirds of 1 percent in 1970. The Soviet GNP, on the other hand, is estimated to have increased by between 7 and 8 percent. This abnormally high Soviet growth rate was the result of a good crop following a bad crop in a country where agriculture still has a large share in GNP statistics. Incidentally, the GNP of the Chinese People's Republic, rebounding from a decline during the Cultural Revolution, is believed to have increased in 1970 by 12 percent.

There are several ways to look at last year's Soviet economic performance, as expressed in these GNP data. When you listen to Soviet spokesmen, you will find the American economy depicted as the prototype of "moribund capitalism" in its last phase, fated soon to be overtaken by a triumphant Soviet "socialism." As was the case during the great depression of the 1930's and during the American recessions of the latter 1950's, Soviet ideology has recently stressed the subject of U.S.-Soviet economic competition. This theme will be dropped as soon as the American economy resumes its normal progress. In fact, it is possible to establish an inverse relation between the virulence of the Soviet "challenge" and the Dow-Jones index.

There is another way of looking at the performance of the two economies. This takes a longer view, departing from the fact that during the past decade both economies expanded roughly at the same pace and from the prognostication that, in the 1970's as a whole, the experience of the 1960's is likely to repeat itself. The two nations can be compared with two runners who follow each other at more or less the same distance, one of them maintaining a very considerable lead. Neither moves at a steady speed. Last year, the United States happened to stand still and the U.S.S.R. speeded up. In other years, it is the United States that advances faster. But there is an important difference in style. The Soviet style is less effective. It takes the Soviet runner an effort by far greater than that of his American colleague to cover a specific distance. Not that the Soviet runner lacks stamina; he has plenty of it. The difference is due to his less rational method of running. There is one more feature that must be mentioned. Each runner is carrying a heavy shotgun; both stand to gain if this burden could be reduced. Thus—if you will permit me to stay with the comparison for 1 more minute—each runner has to make up his mind about two problems. First, given his resources of strength and determination, what does he want to accomplish in the order of his priorities? Second, is he able and willing to improve his style—perhaps even by watching his competitor and learning from him—so that he runs faster and with greater ease and steadiness? The two problems are, of course, interrelated, since a better performance increases the available resources.

Let me turn first to the problem of resource allocation in the Soviet economy, keeping in mind the technological aspects in which you are interested. It is appropriate to start with a few short remarks on the Soviet defense burden. I wish to do this not only because of our eminent interest in this issue given the interaction of Soviet and U.S. policies, but also because in Soviet thinking defense has precedence on principle. I would like to stress the words "on principle". While the Soviet leaders are willing and eager to feed the proud superpower they are heading and likewise anxious to keep their military establishment content, they will not necessarily endorse every military and space project submitted to them. In the U.S.S.R., as everywhere else, it is the project on the margin that engenders conflict among the military or among the civilian leaders or between the two groups.

Previous hearings have been devoted to the size and composition of Soviet military and space expenditures and to the intricate problems of their measurement. I refer, as one example, to the testimony of Mr. David E. Mark, Deputy Director of the Department's Bureau of Intelligence and Research, on June 24, 1969. There is, moreover, that excellent volume your committee published last year under the title Economic Performance and the Military Burden in the Soviet Union. I do not wish to repeat what was said and written a year ago or two, nor has there since been a major change in Soviet developments or the way in which they strike a Western observer. (Statistical estimates undergo, needless to add, continual refinement and correction.) What has changed since Mr. Mark's testimony is the trend in American defense spending. In real terms, i.e., after taking account of price increases in this country, U.S. defense outlays have declined, while, if our reading of the U.S.S.R.'s defense expenditures is accurate, appropriations on the Soviet side have increased.

Given the reduction of the American defense effort in the recent past, always keeping price changes in mind, we arrive at the conclusion that, when valued at American prices, the Soviet package of military and space goods and services is probably slightly smaller than the corresponding U.S. figure. The cost of Soviet military R. & D. and all space programs, when expressed in American prices, appears now to exceed American spending. Finally, when we compare U.S. defense spending with the U.S. GNP, in dollars of course, and Soviet defense spending with the Soviet GNP, both in rubles, we find that the shart of defense in the resources available is roughly the same in both nations.

Let me briefly point to the difference between these two measurements.

In the first of the two comparisons, Soviet defense goods and services procured in the course of 1 year are valued at the cost similar goods and services command in this country. There is much merit in such a comparison, provided we are anxious to obtain a rough power ratio of the two Military Establishments. It rests on the assumption—a rather large one—that costs are a yardstick for the power ratio. There are, of course, other factors, namely plant and equipment and inventories accumulated over the years, and important intangibles which are likely to affect the balance, such as generalship, morale, or inventiveness. But there are enough difficult problems in assessing the goods and services procured in one country in the prices of another. By costing the military personnel of the U.S.S.R. at American rates of pay and maintenance, we hypothesize that the productivity (or, if you please, the potential destructivity) of the same number of men is equal in the two countries compared.

Quality differences also enter the hardware comparison. This is a particularly ticklish issue in R. & D. comparisons. Some instrument or procedure may cost relatively much in a technologically backward country—in fact, may not be available because of a lack in sophistication. But unsophisticated equipment is sometimes very effectively used in equally unsophisticated hands.

I mentioned a second comparison; namely, that of the relative shares of defense in the resources of which the two countries avail themselves in a given period. To use two crude examples: if the United States with a GNP of $1 trillion should spend $80 billion on defense and the U.S.S.R. with a GNP of 300 billion rubles should appropriate 24 billion rubles (the figures are arbitrary), then the defnese burden would be the same in both countries; namely, 8 percent of GNP. But an expenditure of 8 percent for a largely unproductive purpose—even the technological spillover into civilian industries is weak in the U.S.S.R.—is more of a nuisance for a country with less than half the national income than for the richer nation. Conversely, it is true that the gains from disarmament would be greater in the affluent country than in the one that is better off.

Although the percentage comparison may only inadequately measure the relative burden of defense in two countries, it performs the service quite well when we compare two relatively close years in one country. Such a comparison for the Soviet Union appears to show that, in recent years, absolute defense spending has grown, with a substantial increase in the armed might of the U.S.S.R., but that, at the same time, the share of defense in the national income has somewhat receded.

This trend may well continue in the foreseeable future. It may continue as long as the international situation remains unchanged. It ought to continue, because other requirements are pressing, chief among them the quest for improved living conditions and for more rapid technological progress in all but the most preferred sectors of the Defense Establishment. These two very broad requirements were given prominence in the draft directives for the 5-year plan 1971–75, endorsed by the 24th CPSU Party Congress 3 months ago. (Even though it has been operative since the beginning of this year, the plan itself has not yet been put in final form either economically or legally.) The pronouncements of the leaders about the plan at and about the time of the party congress stressed these same priorities for consumer welfare and technological progress. And, indeed, the might and influence of a nation do not rest on armaments alone, but also on the morale of the population (which is likely to be a function of living and working conditions) and on the general level of technology outside the narrow circle of tanks and missiles.

Let me say first a few words on consumer welfare in the context of the issues under discussion. On principle, communism is not ascetic, though, at one time or another, there have been leaders and parties preaching austerity and preferring selfless enthusiasm to material incentives. Such an attitude is an exception in the latter-day U.S.S.R. Almost all the Soviet leaders have recently expressed concern for the consumer and for the worker in particular. Such expressions of concern have notably increased in number and intensity in the wake of the Polish strikes and riots of December, 1970. These Polish events have reverberated throughout the U.S.S.R. and Eastern Europe for two reasons. First, it was the workers who demonstrated against "the workers' state", the proletariat who questioned the dictatorship operated in their own name. Second, the demonstrations showed that, after years of involuntary mass meetings, the workers had acquired an organizational ability which, in case of need, they could use in their own behalf—spontaneously, to use a word Communists dislike intensely.

In discussing Soviet consumption, we should not focus too much on the passenger car. Soviet citizens may dream about a car in their lifetime, but they know that it will remain a dream for all but a small minority. Car sales to the public were in the neighborhood of 100,000 last year and will number only 800,000 by 1975, always assuming that the projections of the planners are actually fulfilled. The Soviet consumer has much more burning problems. There is still a severe scarcity of housing. This, in turn, limits the acquisition of consumer inventories, durable or not, for which you need space, and, in the case of appliances, outlets and sufficient electricity. Civic amenities are everywhere a problem; this refers to commuting, shopping, and similar services. Services are hard to obtain and of low quality. Their total value last year—including barber shops, laundries, repair shops, etc.—amounted to roughly 4 billion rubles or 16 rubles per person. This would be enough for a man to have a haircut every other week and nothing else. Among the important inconveniences is, finally, the scarcity of quality foods. Soviet meat consumption per capita, for instance, is 30 percent below that of Poland—where meat shortages contributed to the explosion last December—and 40 percent below Czechoslovakia's. We may recall that, on June 21, 1957, Khrushchev forecast a total meat output of 21 million metric tons by 1960 or 1961. Actual production in 1970 was 10.4 million tons; the meat goal for 1975 is 14 million tons, that is, two-thirds of the target which was to have been reached a decade ago.

Nevertheless, in the course of the past decade there has been progress for the consumer—for the rural consumer, incidentally, more than for the urban worker. Consumption per capital and per year rose during the 1960's by roughly 3 percent on overage, i.e., about as much in this country. It accelerated in the second half of the decade as compared to the first half, and it is planned to grow at an average 4 percent under the current 5-year plan. The question then arises whether this will be enough to satisfy the aspirations of the Soviet population.

I mentioned that, aside from the undisputed preference for defense, consumer-welfare measures and technological progress have been given priority treatment in recent Soviet pronouncements on economic policy. I also spoke briefly about the conditions that explain the current preoccupation with consumption requirements. Consumer-oriented programs run easily into difficulties in the Soviet economy, usually difficulties of a practical type, sometimes those of an ideological kind. But technological progress is not controversial in an ideology that makes the "productive forces" the prime mover of history. In fact, while the advanced industrial countries of the West experience a degree of revulsion against a technology accused of trampling on human values and debasing the environment, the Soviet system still shows the traditional belief in progress through pure and applied science. (Since nobody nowadays escapes concern for the environment, the draft directives for the new 5-year plan call upon science "to improve man's natural environment.")

The Soviet pursuit of technological eminence has firm roots in the Tsarist past. On the eve of the First World War, though backward in many respects, Russia was the fourth machinery producer in the world, manufacturing automobiles, diesel engines, turbines, and other sophisticated equipment. Still, this was the time when Lenin devised his famous definition of Communism as Soviet power plus electrification of the entire country (electrification serving as a shorthand sign for technical modernization). His earlier variant of this formula was: "Take with both hands all the good things from abroad: Soviet power plus Prussian railroad discipline plus American technology and organization plus American mass education, etc., etc. * * *=socialism." Fifty-three years later, "socialism" had been fully built, mass education had been achieved, the railroads run on time, (while the Prussian model has gone by the board), but American technology and organization still remain a goal for the future. In fact, while the general crisis of capitalism is said to be deepening (it has been deepening ever since Marx wrote the Communist Manifesto), nevertheless General Secretary Brezhnev, addressing the 24th CPSU Party Congress on March 30. 1971, admonished the Party to "study the new processes in the capitalist economy taking place particularly under the influence of scientific-technological development."

This quotation is one of many oblique references to what is believed to be a growing technological gap between the advanced countries of the West and the U.S.S.R. Soviet spokesmen acknowledge it by reiterating the need to reach the so-called "world scientific standard." If and when they are able to express themselves, critical spirits in the U.S.S.R. are more outspoken. The letter of Academician Sakharov, physicist Turchin, and historian Medvedev "to the leaders of Party and Government" (March 19, 1970) puts it as follows:

"The newer and more revolutionary an aspect of an economy is, the greater is the gap between the United States and ourselves. We surpass America in the mining of coal but we lag behind in oil drilling, lag very much behind in gas drilling and in the production of electric power, hopelessly lag behind in chemistry and infinitely lag behind in computer technology. The latter is particularly essential because the introduction of computers in the national economy is of crucial importance for fundamentally changing the whole look of the system of production and of the whole culture. This phenomenon has deservedly been called the second industrial revolution. Incidentally, the capacity of our inventory of computer machines is hundreds of time less than in the United States, and as for the use of computers in the economy, here the gap is so wide that it is impossible to measure it. We simply live in another epoch.

"It is no better in the field of scientific and engineering discoveries. And no increase in our role is in sight. More likely the contrary. At the end of the 1950's our country was the first to launch a sputnik and send a man into space. At the end of the 1960's we lost our lead and the first men to land on the moon were American.

"The fact is just one of many that shows the growing difference in the extent of scientific and technical work in our country and the developed countries of the West."

There exists no simple yardstick for measuring a technological gap, quite apart from the secretiveness shrouding Soviet performance. Much of the evidence is impressionistic and in the nature of appraising Soviet equipment at intervals and finding it a growing number of years behind, say, similar U.S. equipment. Within limits, the relative level of technology is indicated by

longer range factor productivity comparisons. They show that Soviet output per unit of capital and labor advanced in relation to the—by far superior—United States in the 1950's, but declined in the 1960's.

This is the moment to hark back to the comparison of the two runners. Over time, I said, they have been moving at about the same speed but one of them puts in a far greater effort than the other to keep running. Or, discarding the metaphor, the Soviet-type command economy is less efficient than the type or types of economic structure that have evolved in the advanced countries of what is called the West. Let me provide a few significant examples.

If the Soviet technology trails behind that of the advanced countries of the West, above all the United States, but also Western Europe and Japan, it is not because the regime is stinting. Two interrelated methods of using the country's resources for growth and progress are investment and R. & D. outlays, and they have been amply endowed.

Comparing the change between 1950 and 1970, Soviet new fixed investment increased sixfold, and outlays for science thirteenfold, while the GNP tripled. These figures gain perspective in an international context. In the United States, new fixed investment, private and public, increased by 75 percent (1969 over 1950; private investment declined in 1970, possibly also public investment). R. & D. and space expenditures went up 14 to 15-fold, whereas the GNP doubled. All these statistics—which are, of course, in real terms—must be taken with a pinch of salt. For instance, there are indications that U.S. investment data have a downward bias.

It would probably be safe to assert that in the long run American investment and GNP grow at roughly the same pace, disregarding cyclical fluctuations and other shorter term factors. Investment abroad, not included in the investment figures used but rendering yields into the GNP, complicates matters further. Even so, the comparison shows, first, the enormous size of the Soviet effort and, second, its relative inefficiency. The ratio of capital input to GNP growth is by far better in the United States than in the U.S.S.R. (particularly in the 1960's when a prosperous America increased its GNP by an average annual 4½ percent, with investment increasing by 4¼ percent, as against corresponding Soviet figures of slightly above 5 and 6.7 percent).

Japanese figures for the 1960's show the well-known surge of the GNP, coupled with a moderately steeper increase of gross fixed capital formation and R. & D. expenditures. In short, given the costs of investment and innovation, Soviet GNP should grow, not in the neighborhood of the U.S. growth rate, but closer to the Japanese rate of development. In fact, however, it does not.

Now a few figures which have a direct bearing on the material well-being of the Soviet nation. While the Soviet regime under Khrushchev as well as Brezhnev and Kosygin has greatly strengthened its military potential, it has by no means neglected the consumer. Consumer-oriented programs started long before the commotion during and after the Polish events of December 1970, and they have absorbed and continue to absorb enormous resources.

Nothing sheds more light on the use of resources in the post-Stalinist economy than an analysis of its agricultural measures. Agriculture—which Stalin had ruthlessly exploited—has received increasing attention since Khrushchev changed the course in the mid-1950's.

Let me begin with two quotations: "Agriculture", said Khrushchev on March 5, 1962, "is no joking matter. The entire economy can be wrecked if the lagging of agriculture is not noticed and overcome in time." Brezhnev added 9 years later (on March 30, 1971): "Time . . . will not wait . . . we tried other paths to solving agriculture's problems but they did not give the desired results."

To appreciate what has been done and what is planned for the current 5-year period, one should compare the U.S.S.R. with the United States. Agriculture in this country invested in 1970 $5.8 billion. The capital stock at the end of 1970 was valued at $66 billion after depreciation, at $145 billion undepreciated. These figures include plant and equipment and residential building. Soviet investments in agriculture, using American prices at 1970 purchasing power, exceeded $50 billion in 1956–60, $270 billion during the 1960's, and are scheduled to surpass $260 billion during the current 5-year plan. (The rate of exchange includes a 20-percent discount for the inferior quality of Soviet capital goods. If this discount should be on the low side, the dollar figure ought to be reduced, but the disproportion remains enormous in any case.) In other words, if the plan should be fulfilled, agriculture would in the course of 20 years have received an equivalent of close to $600 billion in capital funds (not counting investments in farm sup-

ply industries, such as chemicals, or in highways or central warehouses). Soviet agriculture also uses nine times as much labor and half again as much land to produce roughly three-quarters of what U.S. farms produce.

The vast investments of the past 15 years have inevitably yielded benefits for Soviet agriculture—and consequently for the consumer—but, compared with the United States, Soviet farms remain underequipped. This is not only a measure of long years of neglect, it is also a measure of inefficient management of agricultural affairs in the long years thereafter. This inefficiency is deeply ingrained in the basic institutions, procedures, and incentives that constitute the Soviet economic system within its ideological framework. The economic reforms which were introduced in 1965, the year after Khrushchev's ouster, are actually minor adjustments. If they have not produced more than marginal results up to now, they will not change the picture in the years to come, when, in Kosygin's words, "nuances of the reform will need" [and, we guess, will receive] "further, more accurate definition and development."

The prediction for very large plants continues. When General Secretary Brezhnev said, "Better nearly always means bigger," he was referring to machinery, but the proposed introduction of enterprise "amalgamations" expresses the same philosophy. The wastefulness of Soviet agricultural investment is in part due to the gigantic size of the farms.

The command character of the economy also remains undisputed. Chairman Kosygin asserted "that the guiding and determining factor is directive planning and that commodity-money relations can and must be used in the interests of strengthening plan guidance of the economy and the development of initiative of enterprises * * *. We reject various notions substituting steering through the market for the leading role of centralized state planning." The news media followed up with more explicit attacks on the "revisionist model of a so-called market socialism" (thus, Prof. V. E. Modrzhinskaya, Moscow Domestic Service, June 28, 1971). Even more than it did 5 years ago, the regime stresses central planning, discipline, and "constant control by the party" (Brezhnev). The so-called commodity-money relations do not refer to fluctuating market prices, but are simply the traditional success indicators that are meant to induce managers to act in accordance with the wishes of the customers.

The number and character of the indicators may vary but this does not change the system as such. A few years ago, preceding the reforms of 1965 and shortly thereafter, Soviet news media discussed at length the need to reduce what was called "petty tutelage"; namely, the number and character of indicators enterprise managers are supposed to observe under the constant prodding of party supervisors. Actually, the managers were and still are smart enough to concentrate on those success indicators that matter from the points of view of their bonuses and their career. The main success indicator used to be size of output, and though the reforms are supposed to have overcome the concentration on plan fulfillment and overfulfillment in physical terms irrespective of quality and cost, it appears to be still prevalent. Thus, you could read a short while ago in the journal for the building industry (Stroitel'naya Gazeta, May 16, 1971) the article of an architect by the name of Munts who explained that, in window-glass production, plan fulfillment is prescribed in square meters with the result that the panes are extremely thin and fragile and that no less than 46 percent of window glass is smashed before final installation.

With the present desire to innovate and increase efficiency, it appears that new and more success indicators are about to be prescribed for enterprise managers. In their speeches before the recent party congress, Brezhnev as well as Kosygin suggested that introduction of "the latest product innovations," of the newest equipment, of raw-materials savings, spare-part production, and so forth, should become "important criteria" for plan fulfillment. Not only will this add to the tasks imposed from above upon management and to daily interference by party and government authorities, but it is likely to lead to a new waste of resources for technocratic fads and further dispersal of funds.

The question then arises of how imports of up-to-date equipment and of new technology in general would help the Soviet Union to solve the twin problems of modernizing the productive facilities outside the highest-priority sectors and "improving the quality of life" in the old-fashioned sense of more and better consumer goods and services. In pondering the consequences of a transfer of Western technology to the U.S.S.R., it is understood that strategic goods and strategic technology would be excluded as a matter of principle. The parties

concerned are then faced with another set of twin problems, one primarily a Soviet responsibility, the other a matter that requires Soviet and Western action.

The first question—the question for the Soviets to solve—is: Will the Soviet economy effectively use equipment and processes that are known to operate effectively in the advanced industrial West? Under the Soviet economic system, the benefits of Western technology and management may be limited; Western methods may be ill applied and Western equipment underutilized or abused. What I have in mind is best illustrated by a recent Warsaw broadcast (June 22, 1971) on Polish experience with computers. It said:

"Computer technology, which was supposed to liberate us from the counting frames and slide rules and bring order and organization to all fields of endeavor, has also brought with it a lot of trouble. We are told that losses arising from mistaken investment in computers amount to 60 million yearly. Seventy out of every 100 graduate digital computer experts have no jobs. We produce computers which could fully meet the requirements of our laboratories and design bureaus, yet the majority of engineers prefer their own pencils * * * The great majority of computers installed in Poland are not used. The large, expensive machines are serviced by inadequately trained employees. A good, comprehensive look at this matter must be taken and followup measures implemented."

Even if this account should be exaggerated, it brings out the lesson that it is not sufficient to have new equipment. The spirit and the institutions of the economy must be such that the equipment serves its purpose. Otherwise it does nothing but increase the capital-output ratio.

The second problem concerns both the U.S.S.R. and the technologically advanced West. First, a few figures. Soviet foreign trade as a whole has grown rapidly in recent years, averaging almost 10 percent annually since 1966; it was valued at $24.5 billion in 1970. Two-thirds of Soviet trade is conducted with Communist countries and one-third is with the non-Communist world. Trade with the developed Western countries has grown faster since 1966 than that with any other area, and Japan, the United Kingdom, and West Germany are the leading Western trading partners of the U.S.S.R. Throughout most of the 1960's, the U.S.S.R. focused on chemical plant, equipment, and technology in its imports from the developed West, but, in the last few years, these have been supplanted to quite a degree by automotive equipment and technology in a drive to modernize and expand this sector of the Soviet economy.

More than 80 percent of Soviet trade with the developed Western countries is conducted in hard currencies. The failure of the U.S.S.R. to generate sufficient hard-currency earnings through exports, however, has led to persistent deficits in the Soviet hard-currency balance of trade. This deficit reached $500 million in 1970—exports of $2,196 million and imports of $2,696 million—and as in other recent years, has been financed primarily with Western long-term credits.

Here lies a problem for all the partners concerned. Large purchases of Western equipment and technology, with or without credits, presuppose that the U.S.S.R. will revamp its export policies and export industries with a view to making them better oriented to the needs of foreign markets (at a minimum, along the lines of the Hungarian reform.) This in itself would be a great undertaking requiring a change in institutions (a breakup of the hallowed foreign trade monopoly) and attitudes (willingness to cater to customers), a lot of costly experience, and additional investments not without some risk. The notion is current among Communist Governments that, for example, a Western shoe-machinery builder would accept shoes in exchange for his machinery, shoes competing with the products of the Western clients of the machinery factory. This is naive.

Moreover, the U.S.S.R. would have to shift its exports from bulk materials to manufactured products, including the attendant service and spare-parts delivery. The country is in no way prepared to undertake such a reorientation. This is not to say that Soviet industry is not capable of exporting some advanced products at a comparative cost advantage (lasers, surgical instruments, and devices for high-energy physics research may be such articles).

On the one hand, there are Soviet manufacturers that, with a comparative cost advantage, ought to be exported to the West, even to the advanced West. On the other hand, the Soviets want to double rice production by the end of the current 5-year plan in order "to completely satisfy the country's demand" (speech before the Party Congress, Mar. 30, 1971), by paying rice producers $480 per ton

at a time when the world market price is around $150 and in disregard of the opportunity to purchase rice from less developed countries in exchange for Soviet capital goods.

There is plenty of irrationality in Western economic affairs. No human institution or activity is perfect and no society conforms to its ideal textbook model. It is all a question of relative merits and relative shortcomings and these relative qualities have been put perfectly by a Yugoslav economist, Professor Alexander Bajt, who said: "Imperfect planners are worse than imperfect markets."

Chairman PROXMIRE. Mr. Nelson, you may proceed.

STATEMENT OF RICHARD R. NELSON, PROFESSOR OF ECONOMICS, YALE UNIVERSITY

Mr. NELSON. I also will be excerpting from my prepared statement.

Chairman PROXMIRE. And with the same understanding that your full prepared statement will be printed in the record.

Mr. NELSON. Fine.

I am deeply disturbed by the recent discussion of an evolving threat to the United States of Soviet military research and development budgets exceeding our own. I find the argument of large and growing Soviet military research and development budgets reasonably persuasive. It seems apparent that the Soviets were spending roughly in our ballpark during the early 1960's and keeping pace with our growth. It is clear that we have decelerated in recent years; it is likely that they have continued. However, the piling up of ambiguous facts in the recent testimony of the Department of Defense strikes me as a peculiar attempt at overkill of a point which was more or less obvious initially.

I am far more disturbed by the cries of alarm from the U.S. Military Establishment than I am about the fact of continued growth of Soviet military R. & D. The threat to the United States of Soviet military research and development is not clear for the foreseeable future. The threat to the United States of a panicky response is clear.

One question that needs to be raised is why the continuation of Soviet military research and development growth. One interpretation is sinister intent. A second is lagged, sluggish response to earlier feelings on the part of the Soviets of technological inferiority propelled by a bureaucratic momentum even more powerful than exists in the U.S. Military Establishment. Before interpreting the problem in terms of aggressive purpose, I think the second interpretation needs to be explored carefully.

A related question is what is the appropriate U.S. response. In part this depends on the interpretation. If the second interpretation is correct doing nothing might be the best response. The Soviets will sooner or later slow down if we keep our cool. An increase in U.S. R. & D. spending would, with a lag, spur the Soviets to continue a surge which otherwise would have damped down.

But assume the worst. Assume that the Soviets are spending on R. & D. in order to increase their aggressive power or that even while that may not be the initial intent the development of a technological superiority would ease Soviet aggressiveness.

Why are we worried? Do we really have reason to fear that Soviet R. & D. will seriously erode our deterrent capability? I have heard some technological fantasy mongering but nothing that persuades me

of a real threat in the short and medium run. It took one generation of defense analysts to rid the military of the absurd notion that somehow the strategic balance or threat could be measured by ratios of bombers, or bombers plus missiles, or warheads, or yield. Are we now to adopt an even greater silliness by using the ratio of accumulated military research and development spending as a threat index? How absurd. I am deeply disturbed that people in the defense establishment really seem to believe this index is meaningful. I hope Congress is more sensible.

As particularly evolving Soviet capabilities are identified, and the nature of the potential threat analyzed dispassionately, it certainly is sensible to undertake R. & D. so that if the Soviet threat materializes we can quickly counter it. Such a response involves a delicate and sophisticated blend of military intelligence to anticipate Soviet capabilities, analysis of the implications, and exploratory R. & D. to lay the foundations for a U.S. response if the Soviet capability actually materializes. But simply jacking up our military R. & D. budget, or spending more on capabilities without good evidence that they are needed, surely is only to add fuel to the arms race.

I would like to shift now from military R. & D. threat mongering. Paralleling the concern about a Soviet military R. & D. threat, there have been rising cries of alarm about an economic threat to the United States as a result of our declining technological lead. As in the case of military R. & D., I think it likely that the Europeans and Japanese have gone a distance over the past decade toward closing our technological lead. But, as above, the real question is, so what, and what if anything should we do about it. I believe that guiding national R. & D. policy by the objective of preserving leads would be pernicious.

I would like to present some background on the "technological gap" story by cribbing some lines from an article of mine forthcoming in Minerva this summer. In that article I point out that the technology gap is an old story, and so are the panicky noises on both sides of the Atlantic. The United States clearly was establishing a general technological lead in many fields in the last decade of the 19th Century.

Then, as today, there is evidence of considerable concern on the part of some Europeans. Viner presents the following quote from an 1897 letter circulated by Count Goluchowski, the Austrian Foreign Minister:

> * * * Shoulder to shoulder we must ward off the danger that is at our doors, and in order to prepare for this we must draw upon all the reserves that stand at our disposal * * *
>
> * * * the twentieth century will be a century of struggle for existence in the domain of economics. The nations of Europe must unite in order to defend their very means of existence. May that be understood by all, and may we make use of those days of peaceful development to which we look forward with confidence, to unite our best energies.

Then, as today, some Americans were concerned about the prospects of losing the lead for it was recognized by at least some observers that the reason why U.S. industry was able to pay such high wages, still earn such a high rate of return, and yet remain competitive in world markets, lay in its technological lead. In 1915, 55 years ago, Taussig commented as follows on the rapid diffusion of American technology in automatic machinery:

The more machinery becomes automatic, the more readily can it be transplanted. Is there not a likelihood that apparatus which is almost self-acting will be carried off to countries of low wages, and there used for producing articles at lower prices than is possible in the country of high wages where the apparatus has originated? In hearings before our congressional committees a fear is often expressed that American investors and toolmakers will find themselves in such a plight. An American firm, it is said, will devise a new machine, and an export of the machine itself or of its products will set in. Then some German will buy a specimen and reproduce the machine, in his own country (the Germans have been usually complained of as the arch plagiarists; very recently the Japanese also are held up in terror). Soon not only will the exports cease, but the machine itself will be operated in Germany by low-paid labor, and the articles made by its aid wil be sent back to the United States.

That is 1915.

It is striking how the dialog today echoes the earlier voices of alarm, both European and American. This is not to argue that nothing is new. Many things are, and one in particular would appear to be of major importance in recent policy thinking. This development has been the rise to prominence of large scale organized industrial R. & D. Only recently has R. & D. been recognized as an important factor generating technological advance. Years ago, in fact in Taussig's time, the focus was on "inventiveness" and "ingenuity" and "energy"; the new focus on R. & D. provided a policy handle that was not there when the scources of progressivity were viewed in terms of personal attributes.

During the 1960's data collection progressed to a point where it was possible to compare national R. & D. efforts. The Europeans began to point with alarm to the American R. & D. lead, the Americans to the Europeans closing of the gap, and both to "doing something about it."

I maintain that the objective of maintaining or achieving across the board technological leadership is not a viable one much less a desirable guide to U.S. policy. Only the post World War II prostration of the other major industrial powers permitted the temporary manifestation of such a phenomenon. The United States long has lived by being ahead on average, but except for the temporary postwar abberation always has been a "follower" in many fields, and seems to have survived all right. With the rebirth of Western Europe and the rebirth of the Soviet Union, Japan, across the board leadership simply is not a viable objective.

The growing efficiency of other countries in many ways is advantageous to the United States. If we keep our wits about us we can reap the advantages of their productivity and competitiveness through exploiting the enlarged potential for gains through international trade. This will require that we do a better job than we have recently of keeping prices and wages from artificially depriving us of commercial advantage where we have real economic competitive advantage. Or we must somehow learn to adjust an exchange rate. Protection of course is a way of doing this, but I need not lecture this committee on how inefficient a mechanism protection is. In any case the United States will have to learn to live with a world of technological peers.

George Rathjens will discuss military research and development, and in my prepared statement I go on to talk about the evolving Federal role in support of general technology, but I will leave that for the prepared statement.

Thank you, Mr. Chairman.

(The prepared statement of Mr. Nelson follows:)

PREPARED STATEMENT OF RICHARD R. NELSON

I have been requested to discuss with you certain economic implications of international R. & D. competition. This I will do. But before proceeding to the economic picture I do want to make a few remarks on the alleged military R. & D. threat. After all, this is what got this committee interested in discussion with representatives of the Federation of American Scientists.

SOVIET MILITARY R. & D. SPENDING: WHAT KIND OF A THREAT, WHAT KIND OF RESPONSE

I am deeply disturbed by the recent discussion of an evolving threat to the United States of Soviet military research and development budgets exceeding our own. I find the argument of large and growing Soviet military research and development budgets reasonably persuasive. It seems apparent that the Soviets were spending roughly in our ball park during the early 1960's and keeping pace with our growth. It is clear that we have decelerated in recent years; it is likely that they have continued. The piling up of ambiguous facts strikes me as a peculiar attempt at overkill of a point which was more or less obvious initially.

But I am far more disturbed by the cries of alarm from the U.S. Military Establishment than I am about the fact of continued growth of Soviet military R. & D. The threat to the United States of Soviet military research and equipment is not clear for the foreseeable future. The threat to the United States of a panicky response is clear.

One question that needs to be raised is why the continuation of Soviet military research and development growth. One interpretation is sinister intent. A second is lagged, sluggish response to earlier feelings on the part of the Soviets of technological inferiority propelled by a bureaucratic momentum even more powerful than exists in the U.S. Military Establishment. Before interpreting the phenomenon in terms of aggressive purpose, I think the second interpretation needs to be explored carefully.

A related question is what is the appropriate U.S. response. In part this depends on the interpretation. If the second interpretation is correct, doing nothing might be the best response. The Soviets will sooner or later slow down if we keep our cool. An increase in U.S. R. & D. spending would, with a lag, spur the Soviets to continue a surge which otherwise would have damped down.

But assume the worst. Assume that the Soviets are spending on R. & D. in order to increase their aggressive power, or that even while that may not be the initial intent the development of a technological superiority would increase Soviet aggressiveness.

Why are we worried? Do we really have reason to fear that Soviet R. & D. will seriously erode our deterrent capability? I have heard some technological fantasy mongering but nothing that persuades me of a real threat in the short and medium run. Are we worried about the erosion of the credibility of the U.S. nuclear response to a Soviet European adventure? What evidence have we that the Soviets would savor such an adventure?

It took one generation of defense analysts to rid the military of the absurd motion that somehow the strategic balance or threat could be measured by ratios of bombers, or bombers plus missiles, or warheads, or yield. Are we now to adopt an even greater silliness by using the ratio of accumulated military research and development spending as an additional threat index? How absurd. I am deeply disturbed that people in the defense establishment really seem to believe this index is meaningful. I hope Congress is more sensible.

As particular evolving Soviet capabilities are identified, and the nature of the threat analyzed disproportionately, it certainly is sensible to undertake R. & D. so that if the Soviet threat materializes we can quickly counter it. Such a response involves a delicate and sophisticated blend of military intelligence to anticipate Soviet capabilities, analysis of the implications, and exploratory R. & D. to lay the foundations for a U.S. response if the Soviet capability materializes. But simply jacking up our military R. & D. budget, or spending more on capabilities without good evidence that they are needed, surely is only to add fuel to the arms race.

INTERNATIONAL ECONOMIC COMPETITION

Paralleling the concern about a Soviet military R. & D. threat, there have been rising cries of alarm about an economic threat to the United States as a

result of our declining technological lead. As in the case of military R. & D., I think it likely that the Europeans and Japanese have gone a distance over the past decade toward closing our technological lead. But, as above, the real question is so what, and what if anything should we do about it. I believe that guiding national R. & D. policy by the objective of preserving leads would be pernicious.

I would like to present some background on the "technological gap" story by cribbing some lines from an article of mine forthcoming in Minerva this summer. In that article I point out that the technology gap is an old story, and so are the panicky noises on both sides of the Atlantic. The United States clearly was establishing a general technological lead in the last decade of the 19th century. By that time, U.S. per capita income and productivity were significantly higher than that in England and Europe. It was higher for at least two reasons. Even by that time a large number of industries in the United States probably were operating at a higher capital-labor ratio than their English or European counterparts. This is both explained by and explains the significantly higher wage rate in the U.S. industry. High American wages go back at least as far as 1830, and scattered evidence suggests that by the 1870's, U.S. wages may have averaged perhaps twice that in the United Kingdom (and even more, relative to France and Germany). But this cannot be the full explanation. If it were simply greater capital intensity, but the same total factor productivity, the rate of return on capital should have been significantly lower in the United States. The limited evidence suggests, rather, that it was higher. Over the second half of the 19th century, the yield on British consols never got above 3.5 percent; the yield on the best American railway bonds (to be sure somewhat more risky) never sunk that low and tended to be over 5 percent. Relatedly, this was a period when capital was flowing from the United Kingdom to the United States, not the other way around.

Between 1880 and 1910, the growth of U.S.-finished manufactured exports increased more than sixfold; imports less than tripled. The United States, which ought to have and clearly did have a great comparative advantage and large net export position in foodstuffs (which made exchange available for manufactured imports), nonetheless was a net exporter of manufactured products by 1900. A good share of the surge was in "technically progressive" industries. By 1899, about one-third of U.S.-manufactured exports were in machinery, chemicals, or vehicles. For Germany and the United Kingdom, the figure was about one-fifth. The value of U.S. machinery exports increased tenfold between the mid-1880's and 1905–6. It would appear that around the turn of the century the United States dominated trade in typewriters, for example.

This evidence suggests a significant "technological lead," not surprisingly, for the last half of the 19th century was indeed the well-known great age of American invention. It was also the era in which the system of interchangeable parts was rapidly coming into play in industry after industry in the United States. In many fields Europeans and Englishmen were busy picking up American technique with a lag, just as today. Of course, it was not a one-way street. The Americans did not lead in all fields, and in many fields the lead changed hands. Sometime during the 19th century the United States lost its lead in shipping. The English and Europeans developed, and then lost to the Americans, the lead in steel technology. But that on the average in some sense, the Americans were the technological leaders in manufacturing industry, seems clear.

Then, as today, there is evidence of considerable concern on the part of some Europeans. Viner presents the following quote from an 1897 letter circulated by Count Goluchowski, the Austrian Foreign Minister:

"Europe has apparently reached the turning point in her development. The solving of the great problem of the material well-being of nations, which becomes more pressing from year to year, is no longer a distant Utopia. It is near at hand. The disastrous competition which, in all domains of human activity, we have to submit to from over the seas, and which we will also have to encounter in the future, must be resisted if the vital interests of Europe are not to suffer, and if Europe is not to fall into gradual decay. Shoulder to shoulder we must ward off the danger that is at our doors, and in order to prepare for this we must draw upon all the reserves that stand at our disposal * * *.

"* * * the 20th century will be a century of struggle for existence in the domain of economics. The nations of Europe must unite in order to defend their very means of existence. May that be understood by all, and may we make use of those days of peaceful development to which we look forward with confidence, to unite our best energies."

Then, as today, some Americans were concerned about the prospects of losing the lead, for it was recognized by at least some observers that the reason why U.S. industry was able to pay such high wages, still earn such a high rate of return, and yet remain competitive in world markets, lay in its technological lead. In 1915, Taussig commented as follows on the rapid diffusion of American technology in automatic machinery:

"The more machinery becomes automatic, the more readily can it be transplanted. Is there not a likelihood that apparatus which is almost self-acting will be carried off to countries of low wages, and there used for producing articles at lower price than is possible in the country of high wages where the apparatus has originated? In hearings before our congressional committees, a fear is often expressed that American investors and toolmakers will find themselves in such a plight. An American firm, it is said, will devise a new machine, and an export of the machine itself or of its products will set in. Then some German will buy a specimen and reproduce the machine, in his own country (the Germans have been usually complained of as the arch plagiarists; very recently the Japanese also are held up in terrorem). Soon not only will the exports cease, but the machine itself will be operated in Germany by low-paid labor, and the articles made by its aid will be sent back to the United States. Shoe machinery and knitting machinery have been cited in illustration."

It is striking how the dialog today echoes the earlier voices of alarm, both European and American. This is not to argue that nothing is new. Many things are, and one in particular would appear to be of major importance in recent policy thinking. This development has been the rise to prominence of large-scale organized industrial R. & D. Only recently has R. & D. been recognized as an important factor generating technological advance. Years ago the focus was on "inventiveness" and "ingenuity" and "energy"; the new focus on R. & D. provided a policy handle that was not there when the sources of progressivity were viewed in terms of personal attributes. During the 1960's, data collection progressed to a point where it was possible to compare national R. & D. efforts. The Europeans began to point with alarm to the American R. & D. lead, the Americans to the Europeans closing of the gap, and both to "doing something about it." I believe that this perspective can lead us to stupid policies.

It now seems conventional wisdom that, on the one hand, science and technology policy is an important element determining a nation's economic growth performance, and on the other, that the objective of fostering economic progress somehow should enter prominently in determining a nation's policies regarding science and technology. To a considerable extent the suggested new policy departures really amount to doing "more" and "better" what Governments have done for some time: in particular, supporting basic science and engineering research and education. Yet the concept of a "gap," calling attention as it does to particular product fields and industries, also naturally has pointed policy deliberation in the direction of subsidizing or financing the development of products for production and sale by private companies through the market to the general public (prominently including the export public). This would represent a significant new policy departure for the United States, as well as the European nations. The now scotched supersonic transport program of the Department of Transportation, and the civilian power reactors programs of the Atomic Energy Commission mark the first major steps down this road.

I maintain that the objective of maintaining or achieving across the board technological leadership is not a viable one much less a desirable guide to U.S. policy. Only the post World War II prostration of the other major industrial powers permitted the temporary manifestation of such a phenomenon. The United States long has lived by being ahead on average, but except for the temporary post war abberation always has been a follower in many fields, and seems to have survived all right. With the rebirth of Western Europe and Japan, across the board leadership simply is not a viable objective. We do not have the resources to push into any technological area where another country appears to be pulling ahead. Even if we could it seems senseless. Surely there are better criteria for guiding resource allocation than that someone else is ahead or threatens to be.

The growing efficiency of other countries in many ways is advantageous to the United States. If we keep our wits about us we can reap the advantages of their productivity and competitiveness through exploiting the enlarged potential for gains through international trade. This will require that we do a better job than we have recently of keeping prices and wages from artificially depriving us

of commercial advantage where we have real economic competitive advantage. Or we must somehow learn to adjust an exchange rate. Protection of course is a way of doing this, but I need not lecture this committee on how inefficient a mechanism protection is. In any case the United States will have to learn to live with a world of technological peers.

TOWARD AN EVOLVING FEDERAL ROLE IN SUPPORT OF GENERAL TECHNOLOGY

I certainly do not mean that there is not a very useful role for Federal policy to play in promoting the technological progressivity of U.S. industry. While the traditional accepted roles of Federal R. & D. support are for basic research and for public sector needs, we long have had a set of ad hoc programs in support of general technological progressiveness. Consider, for example, the panoply of programs in support of agricultural science and technology. Public support of research in the field of health very early outran the boundaries of public health problems or problems related to military or sea service and included work on standard private illnesses. Since World War I we have supported R. & D. related to civil aviation, since World War II, R. & D. on civil uses of atomic energy.

The problem is that the boundary lines between lines basic research and product development, and between public sector and private sector, are blurry. Many of the more important policy issues of the next few decades relate to identification of criteria and guidelines for an effective public policy in the gray areas between basic research and product development, and between the public and private sectors.

Today policy is ad hoc, very poorly thought through, and much in need of articulation and rationaliziation. What we have is a collection of programs defined in terms of particular industrial sectors or technologies with almost no questioning of why these fields and not others, and no machinery for looking across the different programs. Thus we have programs for civil aviation but not much for trains, and none for automobiles, buses, or trucks. While there may be some good reasons why this is the appropriate focus for Federal funds for land transport systems' R. & D., no one has really articulated the case. We have massive Federal support for atomic energy, a trickle of funds in coal research, and virtually nothing on other energy fields. We have large-scale Federal support of agricultural R. & D., but only the smallest programs concerned with housing technology despite the fact that the latter industry is becoming much more important than the former, etc. Peculiarly, the one major Federal policy with a rationale of spurring across-the-board technological progressivity in American industry aims to do this through spillover rather than through mechanisms that bear an R. & D. allocation. I refer of course to the space program which somehow has picked up the mantle of a national technology support program.

I think that the whole structure of sectoral and technology specific programs should be subject to reappraisal. What is needed is the development of criteria and machinery for a national policy in support of technology. An important part of such a policy is appreciation of what can be expected to take care of itself without detailed Federal overview. In industries where there are a number of technologically sophisticated companies, and the value of the products is reasonably well reflected in what people are willing to pay for them, there is little reason to believe that private research and development on garden variety new products and processes warrant supplementing by public funds or programs. The areas where active public programs might seem warranted are those where private markets do not adequately reflect social value, or where the underlying private industry is weak technologically, or where technological research and experimentation of a quite basic kind holds considerable promise of unlocking major new possibilities. These are basically different criteria and call for somewhat different kinds of policies.

The problem of sectors with a particularly public interest in their products is one, I think, that only can be handled through the auspices of Government agencies concerned with the wants or products in question, as HEW is concerned with technology for health as well as education even though the former is often provided through private channels. This really is an issue of expanding the scope and machinery of public sector R. & D.

The problem of how to instill technological progressivity into moribund industries has plagued many of the countries of the world, various approaches have been tried, not very successfully. It would appear the greater part of valor not to key a civilian technology policy to trying to bolster up sick or sluggish industries.

The central guiding concept of an explicit civilian technology policy I believe ought to be an active general Federal program of supporting research aimed at improving basic technological understanding, experimental development and testing of radically new concepts and designs, and provision of research and informational facilities for general use. In fact this has been Federal policy in a number of fields. To some degree it characterizes Federal activities in agriculture and medicine. While in both of these fields a small portion of Federal funds have gone into work that carried all the way through to final new product or process, this is not so of the bulk of the federally financed work, and further in both of these fields there are general arguments and special circumstances that make socialization of certain kinds of final product development appropriate.

Federal programs in support of civilian aviation, and atomic energy, have, until recently, almost exactly followed these guidelines. In 1915 the National Advisory Committee on Aeronautics (NACA) was established to stimulate and facilitate the development of American aviation. During its heyday during the 1920's and 1930's NACA pioneered in the development and operation of research and development facilities for general use—for example wind tunnels—in the collection of information and its dissemination, and in basic research and exploratory development. It undertook major work on aircraft streamlining, properties of fuels, experimental new engines, structural aspects of aircraft design, building and testing a variety of equipment. But NACA did not directly support the development of particular commercial aircraft.

Until the mid-1960's, the programs of the Atomic Energy Commission in support of civilian power reactors were similar in spirit to the NACA support of aircraft technology. The Amended Atomic Energy Act of 1954 established a more or less explicit division of responsibility between the Atomic Energy Commission and private enterprise with the Government's role as the undertaking and support of research, the building and support of experimental reactors, operating facilities for testing, dissemination of information, et cetera. Private enterprise was left the task of developing and building the operating reactors once the technology was relatively firm.

The division of labor and responsibility in these two programs reflected the following considerations. First, the kind of basic research and technological experimentation that seemed to hold great promise for the long run advance of the technologies would yield industrywide rather than firm particular benefits; hence no individual firm had much incentive in doing the work. Second, the achievement of certain major technological advances required long run commitment of major amounts of funds in work which had many of the aspects of basic research. Third, by supporting the above kind of work the Government could serve to reduce the costs and risks of final product development employing new technology to a point where private companies could be expected to find profitable the kinds of projects that were socially worthwhile. Thus while the Government played a major role in trying to identify important new areas of technology, private enterprise was left the task of deciding what kind of final product developments should be implemented and when.

As suggested above, the fields where we now support technology with public funds are strictly ad hoc. One urgent need is to reconsider the existing major programs, eliminating them where there seems to be no particular reason why a special program should exist for that field, or broadening the domain where this seems appropriate (for example, a strong case can be made that the civilian activities of the Atomic Energy Commission should either be abandoned, or the Commission broadened to include a general mandate for energy technology). There would appear to be several fields where no major program now exists, but one seems urgently needed. Building technology is an obvious example. Some embrionic proposals have been made that somehow special R. & D. support should go to export industries.

But there are some major dangers and liabilities of proceeding to redesign policy on a field-by-field basis. The Government tends to get locked into particular industries. The industries tend to begin to own the program. The kinds of criteria I have suggested, and the reasons behind them, are quite general and it is difficult to argue why one industry or technology should have such support and another not. My judgment is that a national technology policy should be defined in terms of supporting particular kinds of activities, not particular industries.

Of course one way to do this would simply be to provide more Federal cost sharing on industrial R. & D by using tax credits or other devices. I suspect this is a bad idea. In effect it would tend to subsidize more of the same things

that already are going on without any attempt to aim Federal funds at the particular kinds of R. & D. industry tends to underfund. Further, such a policy carries the severe risk that Federal funds (reduced taxes) will largely substitute for private funds not augment them.

Federal matching funds might be provided to industry institutes. At one time I thought this was a good idea but my British friends describing the experience there have persuaded me that it is not.

The idea I find most appealing would be to focus public funds on the kinds of industrial R. & D. which have high longrun social value, but which is risky and not sharply reflected in profit opportunities for a sponsoring private business firm One interesting possibility would be for the Federal Government to provide funds for technological basic research and experimentation in roughly the same manner as it provides funds for basic scientific research—through a grant mechanism. The RANN program provides a possible pilot model. A key issue here obviously is the balance on initiative on areas between interesting proposals from the outside and ideas on fields to push from the inside. While a case can be made that internal priority setting should play a major role in guiding allocation, there are very major dangers in planning "scientific wars" on particular social problems.

SOME WORRIES ABOUT TECHNOLOGY GAP AND BIG PUSH THINKING

Whatever form the evolving program in support of public and private sector applied research and technology may take, I hope it can avoid the misconception that rapid major technological advance can be neatly planned and ordered and that such planning is an efficient way to advance technology. This misconception seems to stem from a belief that we have done well in military R. & D., and that we can replicate this good experience in other sectors.

A close look at certain characteristics of the technical change process the United States has experienced in civilian industry, and at certain characteristics of the Government financed development programs in defense raise some warning flags. Technological progress in most American industries has been marked by considerable diversity of the sources, and unpredictability (at least in fine structure) of the advances. New products, processes, inputs, and equipment for an industry have come from established firms in the industry, from suppliers, purchasers, new entrants to the industry, individual investors. Many developments that seemed to be promising did not pan out. Many important breakthroughs were relatively unpredicted and were not supported by the recognized experts in the field. While detailed case studies are not plentiful, one has the impression that in most technically progressive industries most of the bad bets were rather quickly abandoned particularly if someone else was coming up with a better solution. And good ideas generally had a variety of paths to get their case heard.

In contrast, since the Korean war the United States has attempted to plan technological developments in defense. A natural concomitant of planned development financed by the Government has been a narrowing down of the sources of technological advance. The firms in the defense industry have become, in effect, chosen instruments. The likelihood is remote that a firm without a contract could, by using its own funds, ultimately beat out the firm with R. & D. contract. Thus as Government R. & D. financing and planning has intensified independent industry initiative has dried up. There is no question but that the advances in performance that have been achieved under the system are fantastic. Yet the waste and sheer mistakes are equally impressive. The percentage of developments that achieved anything like the performance originally promised at anything near the anticipated costs, has, of course, been dismal. It is not clear that the early bets on promising designs in defense have been any worse than in civilian industry. But there has been a tendency to stick with the game plan in the face of mounting evidence that it was not a good one, that appears only in exceptional cases in areas where R. & D. is more decentralized and competitive. The case of Convair throwing good money after bad on the 880 development rightly is regarded as an abberation, and the fact that General Dynamics learned its style in military R. & D. undoubtedly was a contributing factor. But this kind of thing is the rule, not the exception, in military R. & D.

Why the high cost and apparent waste? Largely because of the pace of advance sought. The nature of the arms race imposes a high cost on not having equipment at least as good as the potential enemies', or at least this is the

perception that has guided defense R. & D. planning (I will not stress here that in many cases this notion is simply wrong). Thus each R. & D. project reaches as far as it can. Costs are high both because it is costly to stretch, and because there are many stumbles. It would seem that we ought to be able to achieve our defense capabilities with less cost and fewer stumbles than we have. But to a considerable extent the costs and stumbles seem inherent in force feeding a technology. (Popular impressions aside there was much the same syndrome of cost overruns and failures in Project Apollo). And if force feeding is felt to be important, it would seem that governmental subsidy and a considerable extent of central planning, with chosen instruments, blocked competition, and the rest, is the only way to do it.

Over the past decade the defense and space R. & D. style has begun to be viewed as extendible to civilian industries, and has been extended to the development of supersonic transport, and civilian nuclear power reactors. Perhaps we have learned the lesson in the SST case. I suspect we have not in the case of power reactors. I am deeply disturbed that we are making a large bet against bad odds in cancer research.

The issues I am posing here in part concern the specification of goals for science policy, and in part concern strategy. A large scale R. & D. attack is likely to be a costly and risky way to try to achieve goals if major technological advances are needed and the underlying scientific and technological knowledge is not strong enough to illuminate the paths. In these circumstances it may not make sense to specify these social goals as goals of science and technology policy, at least to the extent that goal setting involves a commiment to try to achieve that goal within a reasonably short time horizon. If experience be a guide such goal setting does seem to carry a commitment to the marshaling of resources to the problem, and usually to premature commitment to a limited set of paths. Achievement of the goal may come more quickly, and almost certainly more economically, if the "war" or "campaign" metaphor can be avoided, and if R. & D. is allowed to probe at the problem and a wide range of possible solutions experimentally and sequentially rather than being pushed.

Chairman PROXMIRE. Thank you very much.

Mr. Rathjens, please proceed.

STATEMENT OF GEORGE W. RATHJENS, PROFESSOR OF POLITICAL SCIENCE, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Mr. RATHJENS. I, too, will read an abbreviated version of my prepared statement, Mr. Chairman.

I welcome the invitation to appear before you to discuss military research and development.

I do so against the background of Department of Defense spokesmen having suggested that the Soviet Union may now be spending the equivalent of about 40 percent more per year than the United States on militarily related R. & D., and that this may soon result in Soviet superiority in military technology.

Implicit in this estimate is the assumption that a ruble spent in the military hardware sector of the Soviet economy buys as much as $2 or more will buy here. I will, for the most part, defer to other witnesses on the questions of dollar-ruble exchange rates and on other budgetary questions, but I cannot but be skeptical.

There are three other questions concerning the relationship between the input of technical effort and output, as measured in useful technology, that I feel more qualified to discuss: management and decision-making in the translation of research results into useful hardware; whether there is a linear relationship between research effort and output; and third, the differences between trying to stay ahead and trying to catch up in technology.

I would note first that in both the United States and the Soviet military R. & D. programs the big expenditures tend to be, not for research which is relatively cheap, but for development. The payoff at the development end of the spectrum is not so much in new knowledge as in producing equipment that will be effective. If one makes bad choices with respect to the initiation of major programs or perpetuates them after they should be terminated, large amounts of money and talent can be consumed with little or no useful payoff at all. The United States has done this on a number of occasions.

Now a few bad decisions can enormously distort the relationship between input of technical effort and useful output, and that is one of the reasons why I am extremely skeptical about efforts to make projections of the effectiveness of R. & D. programs based on expenditures.

As serious as our mistakes of this kind have been, I believe that the Soviet Union has done worse. Because of ideological reasons they have made mistakes at the research end of the spectrum that would be unthinkable in the West, for example in supporting the geneticist Lysenko which set them back years in the biological sciences; and their record in applied research both with respect to civil and military products is also poorer than ours. For example, I am quite sure that they have spent a great deal more than we have on ABM defenses and they have almost nothing to show for it.

They have denied themselves the great advantage we have in the openness of our society and in the decentralization of decisionmaking. This permits informed criticism and questioning of major weapons systems decisions within the executive branch, by congressional committees, by the press and by concerned citizens in a way that has no counterpart in Soviet decisionmaking processes.

In this connection I disagree profoundly with the judgments of those in the Department of Defense that the Soviet Union may have a great advantage in weapons development and acquisition as a result of secrecy. Even in our case it has by now become clear that classification has had the effect of preventing disclosure of serious errors of judgment. I would go so far as to argue that one of the most effective means of improving decisionmaking with respect to military R. & D. in either the United States or the Soviet Union would be relaxation of security and a stimulation of interest on the part of a wider spectrum of the technical community in the decisions to be made.

Incidentally, I would contend that even the DOD's explicit argument regarding the relative advantage to the Soviet Union of secrecy is probably at least exaggerated. It is asserted that because of extreme security we cannot know the implications of Soviet decisions until development is virtually completed, for example until we see a new piece of equipment in the May Day parade, but that on the other hand, because of the openness of American society, the Russians are at a great advantage in being able to determine what we are doing at a very early stage.

While it is true that they can know much more about our applied military R. & D. efforts than we do about theirs, I submit that it may do them in some cases very little good because they cannot know which ones are going to be carried into production and deployment. This is simply because we often do not know ourselves. With these uncer-

tainties I question whether they are in a much better position to react to our R. & D. efforts than we are to some they may have, but about which we know little or nothing.

On balance, I would say that secrecy is a net liability to them, not an asset.

In translating research into effective hardware I would suggest that the Soviet Union is further handicapped by comparison with us in not having groups of technical entrepreneurs such as we have had, who have been able to obtain venture capital and who have had incentives sufficient to induce them to take risks to convert research results into useful products.

As I understand it, the DOD attempts to project Soviet R. & D. output in the military sector implicity assume a more or less linear relationship between input and output. I see no reason whatever to believe that such a relationship exists.

Commonly, one sees the problem of diminishing returns either because one runs out of competent people or interesting ideas. Indeed, DOD spokesmen this last year have as much as said that they could not spend an additional $3 billion very effectively on R. & D. even if they had it. I would be surprised if the Soviet Union did not have similar problems.

My third point on the relationship of output to input has to do with the fact that breaking new ground takes much more effort than it does to follow. Even if one does not know exactly how someone else has done something, there is nevertheless great advantage in simply knowing that it is possible. If one has a little more information so much the better. The best example I can give is the development of hydrogen bombs. The interval between the first fission explosions and the first fusion explosions were 7 years for the United States, 4 years for the Soviet Union, and 2½ years for China.

If we were to use the kind of reasoning the DOD has recently used in its analyses, this would suggest that the Chinese effort to develop hydrogen weapons was roughly three times as intense and productive as was ours, a possibility I find quite unbelievable. To me the wonder is that the gap between the United States and the U.S.S.R. in most areas of military technology remained roughly constant during the period 1960–68 as it did, at least according to the DOD. If one assumes Russian efforts were comparable to ours in terms of commitment of resources, and DOD statements have suggested that they were, one can only conclude that they are very much less efficient for, by leading as we have, we have in effect, done much of their R. & D. for them.

Let me turn now to where we actually stand vis-a-vis the U.S.S.R. in terms of current technology, and to the question of the implications of possible erosion in our lead. With respect to the first point I find no significant differences in what I have read in DOD statements and in my own impressions. There are apparently a few areas of tactical weaponry where the Soviets have demonstrated hardware for which we have either no, or inferior, counterparts. In many more areas we are ahead.

In the strategic area, about which I am better informed, some of the rather general DOD statements have suggested that the Soviets are making great progress. However, on examination, the concern at the highest levels in the Defense Department seems really to be based pri-

marily on moves by the Soviets in procurement and deployment and in speculation about possible technological developments rather than in any actual erosion of the technological superiority we have. In fact, with respect to virtually all of the major areas of technology relevant to strategic weaponry we probably have a substantial lead and one that is not diminishing rapidly, if at all.

When one turns to basic science, the United States probably has a significant lead in a number of areas. I know of no broad areas where one would concede the Russians a significant lead. In addition to management deficiencies, I believe they suffer in some other respects in their pursuit of basic science, notably because of their enormous lag in computer technology and in high-quality instruments and research equipment.

In discussing the implications of possible erosion in our lead in military technology I want to draw a distinction between tactical warfare and strategic warfare systems.

In tactical warfare a technological advantage can make the difference between victory and defeat in an engagement, and this may depend not only on the concepts involved in design but also on such factors as reliability and maintainability under field conditions. On the other hand, in strategic war, at least as I think of it, and with forces anything like those we and the Soviet Union now possess, there will be no victors, and reliability or maintainability of weapons systems will not matter very much. The strategic systems serve their purpose if there is enough likelihood that they will work so that they serve as deterrents. A modest or even quite substantial technical advantage possessed by one side will not upset the present relatively stable balance. A dramatic breakthrough, for example, a virtually airtight ABM system, might, but I see no such possibilities on the horizon.

In this regard, our best assurance against being surprised is in having strong programs in the basic sciences and at the research end of the R. & D. spectrum. With such programs we can hope to know what is possible. The one aspect of our present effort I find most disturbing is that we are spending so much at the other end of the spectrum in the strategic area.

While I am not as familiar with the proposed budget for R. & D. in the tactical area I am, for the reasons I have given above, less troubled in a general sense by relatively large amounts for advanced development and for test evaluation. Some of the tactical weapons we are developing are quite likely to be used, and I would like to think that if they are, they will not only have been well conceived in terms of exploiting technology but well designed in an engineering sense and thoroughly tested and debugged through field trials.

I would like now to summarize my feelings about the near term comparative balance between the United States and the U.S.S.R. in military R. & D. and then turn to the longer term and broader questions of national priorities and expectations as regards science and technology.

I believe we have a significant lead over the Soviet Union in most areas of military technology and in many of the relevant sciences on which technology depends. At least as important is the fact that we have great advantages in terms of our system of incentives, in terms

of management techniques, and perhaps most important of all, because we are an open society.

With these advantages and a reasonable commitment of resources, I have little fear that we will fall behind in technology for tactical warfare, and even less that we will do so in the strategic area. I would regard a closing of the gap or even some Soviet technical lead in the latter area as less susceptible of exploitation and therefore less worrisome than in the former. I would suggest that we could save substantial sums, which could be better used elsewhere, by cutting back on some strategic program not only in the R. & D. but also in the procurement part of the budget as well. I am less prepared to suggest changes in the R. & D. budget for tactical weapons.

While my foregoing remarks may suggest some complacency about our military R. & D. efforts, I am not complacent about the DOD analyses of the comparative strength of Soviet and American programs nor about the cries of alarm that have been sounded. In my view, the analyses are of questionable validity. The alarms mislead the Congress and public, and their primary effects are likely to be unnecessary worry and a further erosion of credibility in government.

Neither am I complacent when I consider the state of science and technology in the United States more broadly.

During the post-Sputnik decade American science and technology grew at a phenomenal rate—scientists were esteemed and they played important roles in the councils of government. Neither those growth rates nor those attitudes could be sustained, and now the pendulum has swung in the other direction. Much of the change was inevitable. Technology was oversold and misused. Both technical and political people must take responsibility for this. It is quite understandable that there has been an adverse reaction to vast expenditures of public moneys on programs that were often carried out with little regard to environment and other side effects, and that did little to better the human condition.

Military science in particular is in disrepute. Many of our young scientists and engineers, even though job prospects are poor, would be reluctant to work on military projects because they are distrustful of their Government and profoundly skeptical of the purposes to which their ingenuity may be put.

My fear, and my conviction, is that confidence in both science and Government and the health of the science-Government relationship will suffer further with each additional Government dollar that is spent on unneeded military hardware or other technical enterprises that cannot command wide public support.

Although the danger is perhaps a little remote, the consequences of our having stayed in Vietnam long after the Nation decided it was a mistake and in our spending large sums on strategic weapons that much of the public sees, and I think rightly so, as more likely to diminish than to improve our security, could be that we may be spending less 2 or 3 years from now than we should in the national security area. This is particularly likely to occur with respect to tactical weaponry.

These risks I would regard as no more serious and probably less so, than the risks that in our reaction against big science and big Government—I might say unwise science and unwise Government—

the Nation will not support science and technology and derive the benefits from it that it could and should.

Education and basic science must be supported almost entirely by Government and through philanthropy. This is because the payoffs are so unpredictable, diffuse, and, in some cases, remote that one can hardly expect private enterprise to make much of an investment in these areas. Fortunately, with a few exceptions basic research is, on a relative scale, not very expensive. I would hope in the Nation's interest, indeed it is in the interest of all mankind, that rather generous support could be provided for basic research and graduate education in the sciences and engineering.

Much applied science can command industrial support because it can be justified as a sound investment. In those areas where this is possible the work that is done will, in my view, be more responsive to public needs and very likely be carried out more efficiently if it is done as a part of the market economy rather than in Government laboratories or with heavy Government subsidy.

There are, however, many other areas where the benefits of the application of science and technology will be widely diffused among those who can ill afford to pay for them or where for other reasons substantial public investment is desirable. I have in mind areas such as improved urban transport, the use of computers in education, improved weather prediction and possibly control, and the development of less expensive and more efficient techniques and materials for construction of housing. Programs in some of these areas could be quite costly and if they are executed badly, if they promise more than they can deliver, or if they cost far more than original estimates, the effect would be, as in the case of so many aerospace programs, to produce a further erosion in confidence in the science-Government partnership.

On the other hand, if public programs are truly responsive to real national needs and are based on realistic costs and extrapolations of technology, I believe they can benefit the Nation as a whole, begin to reduce public cynicism about both science and Government, and make use of human resources that are now being wasted. The best assurance they can meet such criteria is—and I now return to one of my earlier themes—if there is full disclosure, widespread public interest, and sharp questioning by the Congress and by professionals outside the agencies who have a direct stake in the prosecution of the program. We should be able to do better than we have in defense. I hope the effort will be made.

Thank you, Mr. Chairman.

(The prepared statement of Mr. Rathjens follows:)

PREPARED STATEMENT OF GEORGE W. RATHJENS

Mr. Chairman and members of the subcommittee, I welcome the invitation to appear before you to discuss military research and development.

I do so against the background of alarms having been raised by Department of Defense spokesmen about the comparative levels of efforts in the United States and the Soviet Union. In particular, it has been suggested that the Soviet Union may now be spending the equivalent of about 40 percent more per year than the United States on militarily related R. & D., and that this may soon result in Soviet superiority in military technology.

The public and the Congress should be concerned about our comparative position in military technology and more broadly about the use of the Nation's

technical resources. I applaud the efforts of this and other committees of the Congress to inform themselves, and the efforts of the Defense Department to inform the Congress, in this regard. However, I am concerned that DOD presentations may have conveyed an impression that our situation vis-a-vis the Soviet Union is worse than it is, and that we can estimate the level of Soviet expenditures for military R. & D. and the relationship between expenditures and output with considerably more precision than I think possible.

Implicit in the estimate that the Soviet Union is spending the equivalent of $3 billion more per year than we are on militarily related R. & D. is the assumption that a ruble spent in the military hardware sector of the Soviet economy buys as much as $2, or more, will buy here. I will for the most part defer to other witnesses on the questions of dollar-ruble exchange rates and on other budgetary questions, but I can not but be very skeptical of the figure I have just quoted. I have been particularly struck by a line of argument suggested by Alec Nove, an English economist who has specialized in study of the Soviet economy, that if the ruble could buy what $2 or $3 would, we would find Russian products similar to those developed in the military R. & D. sector—commercial aircraft, electronic equipment, and precision instruments—providing strong competition with western products in world markets. They could be selling aircraft for 8 or 9 million rubles (or $9 or $10 million at the official exchange rate—for less than that at the Zurich free market rate) that would be comparable to Boeing aircraft selling for $20 million each. They are not of course, and Nove suggests that if one is concerned with equipment of the same performance and quality the ruble is worth nothing like $2. His judgment, and mine, is that technical talent is used much less efficiently in the Soviet Union, even in the military hardware sector, than the $2 exchange rate suggests.

Turning now away from the budgetary issues, there are three other questions concerning the relationship between the input of technical effort and output, as measured in useful technology, that I would discuss: first, management and decisionmaking in the translation of research results into useful hardware; second, whether there is a linear relationship between research effort and output; and third, the differences between trying to stay ahead and trying to catch up in technology.

I would note first that in both the United States and the Soviet military R. & D. programs the big expenditures tend to be, not for research which is relatively cheap, but for development. The payoff at the development end of the spectrum is not so much in new knowledge as in producing equipment that will be effective. If one makes bad choices with respect to the initiation of major programs or perpetuates them after they should be terminated, large amounts of money and talent can be consumed with little or no useful payoff at all. The United States has done this on a number of occasions. Going back some years, I would cite the Skybolt and the Snark missile programs as two prime examples; and coming down to the present, the Safeguard ABM and the B–1 programs. Perhaps the most scandalous example we have on the immediate horizon is the Cannikan nuclear test to be held this October in the Aleutian Islands. In this case we are going ahead with a very expensive test to prove out a nuclear warhead whose primary use will be for a weapons system that the Congress some time ago rejected, that is, an ABM system for the defense of the United States against China. Now a few bad decisions such as those I have identified can enormously distort the relationship between input of technical effort and useful output, and that is one of the reasons why I am extremely skeptical about efforts to make projections of the effectiveness of R. & D. programs based on expenditures.

As serious as our mistakes of this kind have been, I believe that the Soviet Union has done worse. Because of ideological reasons they have made mistakes at the research end of the spectrum that would be unthinkable in the West, for example, in supporting the geneticist Lysenko which set them back years in the biological sciences; and their record in applied research both with respect to civil and military products is also poorer than ours. For example, I am quite sure that they spent a great deal more than we have on ABM defenses and they have almost nothing to show for it.

They have denied themselves the great advantage we have in the openness of our society and in the decentralization of decisionmaking. This permits informed criticism and questioning of major weapons systems development and acquisitions decisions within the executive branch, by congressional committeees, by the press, and by concerned citizens in a way that has no counter part in

Soviet decisionmaking processes. In this connection I disagree profoundly with the judgments of those in the Department of Defense that the Soviet Union may have a great advantage in weapons development and acquisition as a result of secrecy. Even in our case it has by now become clear that misuse, and indeed possibly quite ligitimate use, of classification has had the effect of preventing disclosure of serious errors of judgment. I would go so far as to argue that one of the most effective means of improving decisionmaking with respect to military R. & D. in either the United States or the Soviet Union would be relaxation of security and a stimulation of interest on the part of a wider spectrum of the technical community in the decisions to be made.

Incidentally, I would contend that even the DOD's explicit argument regarding the relative advantage to the Soviet Union of secrecy is probably wrong or at least exagerrated. It is asserted that because of extreme security in the Soviet Union we cannot know the implications of Soviet decisions until development is virtually completed; for example, until we see a new piece of equipment in the May Day parade, but that on the other hand, because of the openness of American society, the Russians are at a great advantage in being able to determine what we are doing at a very early stage. While it is true that they can know much more about our applied military R. & D. efforts than we do about theirs, I submit that it may do them in some cases very little good because while they may be inundated with information about possible U.S. programs, they cannot know which ones are going to be carried into production and deployment. This is simply because we often do not know ourselves. While they may have thought we intended to deploy a B–70 bomber force, and I believe they probably spent enormous sums on air defense in reaction to that possible decision, in fact, of course, we did not.

And again coming down to the present, while they may know that we contemplate a B–1 program or an ULMS program neither they nor we can know what decisions will be taken. With these uncertainties I question whether they are in a much better position to react to our R. & D. efforts in these areas than we are to some they may have, but about which we know little or nothing. On balance, I would say that secrecy is a net liability to them, not an asset.

In translating research into effective hardware I would suggest that the Soviet Union is further handicapped by comparison with us in not having groups of technical entrepreneurs such as we have had, for example, around route 128 in the Boston area, who have been able to obtain venture capital and who have had incentives sufficient to induce them to take risks to convert research results into useful products. Reports from the Soviet Union, for example, those of the recent defector, Anatoli Fedoseyev, suggest that the Russians themeselves are aware of their disadvantage in this regard.

As I understand it, the DOD attempts to project Soviet R. & D. output in the military sector implicitly assume a more or less linear relationship between input and output. I see no reason whatever to believe that such a relationship exists. At the one end of the scale one is confronted with critical-mass problems: some programs can make little or no progress at all unless they have some minimum level of support. At the other end, and I believe much more commonly, one sees the problem of diminishing returns either because one runs out of competent people or interesting ideas. There have been times when we have wanted to move faster, in a particular R. & D. area, but knew that spending more money would help very little, if at all, indeed, DOD spokesmen this last year have as much as said that they could not spend an additional $3 billion very effectively on R. & D. even if they had it. I would be surprised if the Soviet Union did not have similar problems.

My third point on the relationship of output to input has to do with the differences between breaking new ground on the one hand and following someone else on the other. The distinguished Russian physicist Sakarov has explained this by analogy with a corss-country ski race. It takes much less effort to keep up than it does to lead. The fact is that even if one does not know exactly how someone else has done something, there is nevertheless great advantage in simply knowing that it is possible. If one has a little more information so much the better. The best example I can give is the development of hydrogen bombs. The interval between the first fission explosions and the first fusion explosions were 7 years for the United States, 4 years for the Soviet Union, and 2½ years for China. If we were to use the kind of reasoning the DOD has recently used in its analyses, this would suggest that the Chinese effort to develop hydrogen weapons was roughly three times as intense as was ours, a possibility I find quite unbeliev-

able. To me the wonder is that the gap between the United States and the U.S.S.R. in most areas of military technology remained roughly constant during the period 1960–68 as it has, at least according to the DOD. If one assumes Russia efforts were comparable to ours in terms of commitment of resources, and DOD statements have suggested that they were, one can only conclude that they are very much less efficient for, by leading as we have, we have, in effect, done much of their R. & D. for them.

Let me leave now the question of inputs to the R. & D. process and speculations about outputs, and turn to where we actually stand vis-a-vis the U.S.S.R. in terms of current levels of technology, and to the question of the implications of possible erosion in our lead. With respect to the first point I can be very brief since I find no significant differences in what I have read in DOD statements and in my own impressions. There are apparently a few areas where the Soviets have demonstrated hardware for which we have either no, or inferior, counterparts.

These are principally in tactical areas, e.g. in surface-to-surface naval cruise missiles. In many more areas we are ahead. In the strategic area, about which I am better informed, some of the rather general DOD statements have suggested that the Soviets are making great progress. However, on examination, the concern at the highest levels in the Defense Department seems really to be based primarily on moves by the Soviets in procurement and deployment and in speculation about possible technological developments rather than in any actual erosion of the technological superiority we have. In fact, with respect to virtually all of the major areas of technology relevant to strategic weaponry we probably have a substantial lead and one that is not diminishing rapidly, if at all. I refer, for example, to missile guidance, reentry vehicle technology, submarine propulsion, antisubmarine warfare, ABM radar performance, and computer and data processing technology.

When one turns to basic science, the United States probably has a significant lead in a number of areas, for example biology and the medical sciences, some aspects of chemistry, and solid state physics. In other areas we are more nearly on a par, for example in mathematics, high energy physics, hydrodynamics, and astronomy. I know of no broad areas where one would concede the Russians a significant lead. In addition to management deficiencies, I believe they suffer in some other respects in their pursuit of basic science, notably because of their enormous lag in computer technology (which affects not only their ability to do scientific research but to manage their economy), and, in high-quality instruments and research equipment. In one area oceanography, the situation is apparently to some extent reversed. They have made a greater investment in modern oceanographic research vessels than we have.

In discussing the implications of possible erosion in our lead in military technology I want to draw a distinction between tactical warfare and strategic warfare systems.

In tactical warfare, a technological advantage can make the difference between victory and defeat in an engagement, and this may depend not only on the concepts involved in design but also on such factors as reliability and maintainability under field conditions. On the other hand, in strategic war, at least as I think of it, and with forces anything like those we and the Soviet Union now possess, there will be no victors, and reliability or maintainability of weapons systems will not matter very much. The strategic systems serve their purpose if there is enough likelihood that they will work so that they serve as deterrents. I do not see how a modest or even quite substantial technical advantage possessed by one side could be very useful. Certainly, evolutionary changes in technology will not upset the present relatively stable balance. A dramatic breakthrough—for example, a virtually airtight ABM system—might, but I see no such possibilities on the horizon.

In this regard, our best assurance against being surprised is in having strong programs in the basic sciences and at the research end of the R. & D. spectrum. With such programs, we can hope to know what is possible. The one aspect of our present military R. & D. effort I find most distrubing is that we are spending so much at the other end of the spectrum in the strategic area. Thus, $370 million, which I understand is the amount in the present authorization bill for the B–1 bomber, is nearly twice what the DOD is spending on basic research in the universities, and is about 60 percent of the whole National Science Foundation budget for this fiscal year. It is in my view a quite unnecessary expenditure.

While I am not as familiary with the proposed budget for R. & D. in the

tactical area (and I am virtually certain that I would, on close examination, find some programs which I would think unwise), I am, for the reasons I have given above, less troubled in a general sense by relatively large amounts for advanced development and for test and evaluation. Some of the weapons we are developing in this area are quite likely to be used, and I would like to think that if they are, they will not only have been well conceived in terms of exploiting technology, but well executed in an engineering sense and thoroughly tested and debugged through field trials.

I would like now to summarize my feelings about the near-term comparative balance between the United States and the U.S.S.R. in military R. & D., and then turn to the longer term and broader questions of national priorities and expectations as regards science and technology.

I believe we have a significant lead over the Soviet Union in most areas of military technology and in many of the relevant sciences on which technology depends. At least as important is the fact that we have great advantages over the Soviet Union in terms of our system of incentives, in terms of management techniques, and perhaps most important of all, because we are an open society. With these advantages and a reasonable commitment of resources, I have little fear that we will fall behind in technology for tactical warfare, and even less that we will do so in the strategic area. I would regard a closing of the gap, or even some Soviet technical lead in the latter area, as less susceptible of exploitation and therefore less worrisome than in the former. I would suggest that we could save substantial sums, which could be better used elsewhere, by cutting back on some strategic programs, not only in the R. & D. but also in the procurement part of the budget as well. I am less prepared to suggest changes in the R. & D. budget for tactical weapons.

While my foregoing remarks may suggest some complacency about our military R. & D. efforts, I am not complacent about the DOD analyses of the comparative strength of Soviet-American R. & D. efforts, nor about the cries of alarm that have been sounded. In my view, the analyses are of questionable validity. The alarms mislead the Congress and the public, and their primary effects are likely to be unnecessary worry and a further erosion, which we can well do without, of credibility in Government.

Neither am I complacent when I consider the state of science and technology in the United States more broadly.

During the post-Sputnik decade, American science and technology grew at a phenomenal rate—by some measures, at the rate of 15 percent per year; scientists were esteemed; they played important roles in the councils of Government. Neither those growth rates nor those attitudes could be sustained, and now the pendulum has swung in the other direction. Many now see science and technology more a source of troubles than as a means of their alleviation; many engineers and scientists are now unemployed or underemployed, and are bitterly disillusioned; and the best of our students are turning increasingly to other fields. Much of the change was inevitable. Technology was oversold and misused. Both technical and political people must take responsibility for this. It is quite understandable that there has been an adverse reaction to vast expenditures of public moneys on programs that were often carried out with little regard to environmental and other side effects; and that did little to better the human condition. The space and military programs have been the most bothersome in this respect, and military science in particular is in disrepute. Many of our young scientists and engineers, even though job prospects are poor, would be reluctant to work on military projects because they are distrustful of their Government and profoundly skeptical of the purposes to which their ingenuity may be put.

In my view, the pendulum has already swung too far, but my fear and my conviction is that confidence in both science and Government, and the health of the science-Government relationship, will suffer further with each additional Government dollar that is spent on unneeded military hardware or other technical enterprises that cannot command wide public support. I am afraid that before the trend is reversed, there is some danger that we may be spending less than we should in the national security area. This is particularly likely in tactical weaponry. It will be a reaction to our having stayed in Vietnam long after the Nation had decided it was a mistake, and to our spending large sums on strategic weapons that much of the public sees, and I think rightly so, as more likely to diminish than to improve our security.

These risks I would regard as no more serious than the risks that, in our reaction against big science and big government—I might say unwise science and

unwise government—the Nation will not support science and technology and derive the benefits from it that it could and should.

I want now to distinguish between education and basic research, on the one hand, and applied science and engineering on the other. Both can serve us; both require Federal support.

Education and basic science must be supported almost entirely by government and through philanthropy. This is because the payoffs are so unpredictable, diffuse, and, in some cases, remote that one can hardly expect private enterprise to make much of an investment in these areas. Fortunately, with a few exceptions such as in those areas requiring large accelerators, basic research is, on a relative scale, not very expensive. I would hope in the Nation's interest, indeed it is in the interest of all mankind, that rather generous support could be provided for basic research and graduate education in the sciences and engineering.

Much applied science can command industrial support because it can be justified as a sound investment. In those areas where this is possible, the work that is done will, in my view, be more responsive to public needs and very likely executed more efficiently if it is carried out as a part of the market economy rather than in Government laboratories or with heavy Government subsidy.

There are, however, many other areas where the benefits of the application of science and technology will be widely diffused among those who can ill afford to pay for them or where for other reasons substantial public investment is desirable; I have in mind areas such as improved urban transport, the use of computers in education, improved weather prediction and possibly control, and the development of less expensive and more efficient techniques and materials for construction of housing. Programs in some of these areas could be quite costly, and if they are executed badly, if they promise more than they can deliver, or cost far more than original estimates, the effect could be, as in the case of so many aerospace programs, to produce a further erosion in confidence in the science-Government partnership. On the other hand, if public programs are truly responsive to real national needs and are based on realistic costs and extrapolations of technology, I believe they can benefit the Nation as a whole, begin to reduce public cynicism about both science and Government, and make use of human resources that are now being wasted. The best assurance they can meet such criteria is—and I now return to one of my earlier themes—if there is full disclosure, widespread public interest, and sharp questioning by the Congress and by professionals outside the agencies who have a direct stake in the prosecution of the programs. We should be able to do better than we have in defense. I hope the effort will be made.

Chairman PROXMIRE. Well, gentlemen, thank you very much. I think you give us a most interesting and valuable picture of the problem that faces us with respect to the competition of the Soviet Union.

I would like to start with Mr. Davies and go back to the statement you have made. You say: "Finally, when we compare U.S. defense spending with the U.S. GNP, in dollars, of course, and Soviet defense spending with the Soviet GNP, both in rubles, we find that the share of defense in the resources available is roughly the same in both nations."

Then you compare the two expenditures on defense and figure that they are both spending about 8 percent, both nations about 8 percent of their GNP on defense. And then you point out that this is a greater burden for the Soviet Union than for the United States because it is a poorer nation.

Do I interpret you correctly, Mr. Davies, that you are telling us that in your best estimate the Soviet Union is spending about the same proportion of their resources on defense as we are?

Mr. DAVIES. Yes, Mr. Chairman.

Chairman PROXMIRE. Well, now, in view of the fact that they have an economy half of our size does that mean they are spending half as much on defense as we are?

Mr. DAVIES. No, Mr. Chairman, I do not think so.

Chairman PROXMIRE. How do you reconcile that with what seems to be the logical conclusion that they are spending half as much?

Mr. DAVIES. Well, I regret I am not able to compete with Professor Rathjens and Professor Nelson in economic analysis. I am not an economist myself, but I think some part of the explanation lies in the fact that the pricing system in the Soviet Union is a completely arbitrary one and that, as I said at the outset of my statement, absolute precedence is given to national defense. It is therefore possible for the Soviets, by arbitrary pricing, by concentration in this area, to produce as we see they have, a military might which is comparable to ours.

Chairman PROXMIRE. Well, in that event, in view of the fact that our economy, we all seem to agree, is about twice as productive as theirs; we have about a trillion dollars and they have perhaps $500 million or half a trillion dollar GNP, and if we gave it a higher priority and were able to come up with equivalent defense efforts, equivalent resources then it should be 16 percent GNP, rather than 8 percent.

Would you care to have your economist sit up at the table here? Perhaps he would like to make an observation on this, too. I am sorry, sir, I do not recall your name.

Mr. BLOCK. Block.

Chairman PROXMIRE. Mr. Block, of course.

Mr. BLOCK. The main reasons for this discrepancy are twofold: first, with regard to the personnel factor in defense spending of both nations, it is obvious that the Russians are buying labor cheaper than we do. Maintaining a GI costs more than a Russian soldier; so in regard to resources from the personnel side, given the lower consumption standards on the Soviet side, they have cheaper prices.

But, a more important aspect, since manpower absorbs only one-fourth of the military budget, is the difference in the effectiveness of the industry which works for armaments—and also for some investment goods—and the rest of the industry. Now, that is where the figures Mr. Davies used come in. The Soviets themselves pay their farmers $480 per ton of rice at a time when rice on the world market costs only $150. The amount of money poured into agriculture is simply fantastic.

In other words, you have an economy which spends so much on the production of consumer goods that the share of the military is correspondingly small. In other words, it is the costliness of the bulk of the economy which has the result that the share of armaments and armaments supporting industries in the total output is relatively small.

Chairman PROXMIRE. Mr. Block, I still go back to the fundamental basic facts and figures. If they are spending 8 percent of their economy on defense, their GNP on defense, and we are spending 8 percent of our GNP on defense, and our GNP is twice as great as theirs, then we should be spending twice as much on defense as they are.

Now, we recognize, of course, that there are different wages and so forth. We know that. We recognize that when you take the number of the amount of rubles in the defense budget, and you allow for the part of the defense budget that is not directly disclosed, take the hidden factors in their defense budget, too, the amount that they are spending is far less than one-half of what we are spending. We are

spending about $75 billion, which is about 65 billion rubles, something of that kind, and they are spending maybe 25 billion rubles.

So, if you allow for the lower wages, lower pay, and so forth from the Soviet Union, then still it seems to come out to a point where we somehow seem to be devoting more of our resources than they are.

But, I take it from your answer and Mr. Davies' position, especially since he has the very helpful reference to the decathlon runner or competitor, that the military is an area where the Soviets do have a high degree of proficiency relative to the rest of their economy, where they are able to get more from their resources, where even though their proportion is comparable to ours, and their economy is less than ours, because they are more efficient in this area, compared to the way they are in agriculture, for example, that for this reason, perhaps, 8 percent of their economy in defense is much more productive than we might otherwise compute it; is that it?

Mr. BLOCK. Yes; the resources used for defense and some investment purposes.

Chairman PROXMIRE. Mr. Nelson, would you like to comment on this?

Mr. NELSON. I think Mr. Block's explanation was really good. The problem here is one that this committee has wrestled with on a number of occasions: that of making comparisons between the output of one country and that of another. The basic problem of international GNP productivity comparisons is that almost nowhere are you able to find two countries, each with a number of industries, and with the productivity of each industry in the one being, say, half of that in the other.

Chairman PROXMIRE. Now, let us accept that. Let us accept that and then we get into even more difficulty, I think, with Mr. Davies' analysis. Incidentally, I think it is a very good one. I think it is one of the finest coming from any Government official coming before this committee in this area. It is straightforward and consistent and it is a fine statement. But, I have trouble again with the overwhelming bulk of your analysis indicating that the Soviet Union is a slower runner than we are, and that they lack particularly in the technology area. In your statement, Mr. Davies, you indicate where they are doing well, but then you say that: "American technology and organization still remain a goal for the future," and you quote that remarkable letter.

You read part of it, but you did not read the part of it that I think is the most devastating of all where they say: "This technology," and referring to the computer technology being so far behind ours, "has deservedly been called the second industrial revolution.

"Incidentally, the capacity of our inventory of computer machines is hundreds of times less than in the United States, and as for the use of computers in the economy, here the gap is so wide that it is impossible to measure it. We simply live in another epoch."

Now, in view of the relationship between technology and military capability, and especially the military capability of the future, this would seem to add a new dimension to the Soviet weakness and a new dimension to the American advantage.

Now, once again, am I misinterpreting or exaggerating the situation, or is that correct, Mr. Davies?

Mr. DAVIES. Well, Mr. Chairman, I think I would like to make two

points here: one is with regard to the comparability of what is produced in the Soviet Union in this field and what is produced in the United States. If we take an example of somebody who, in a high-labor cost economy, is producing extremely sophisticated equipment, and is doing so at the going market rate, and compare that with a situation in which you have a very expensive subsidization, not only in terms of low-labor costs, but also in terms of the cost of all the raw materials involved, then you get some idea of one major difference that can exist in this field.

In one way, it seems to me, the argument as a whole resembles somewhat the discussions that we used to have before the Second World War when a great deal of attention was paid to German steel production as compared to the total steel production of the United Kingdom, France, the United States, and the Soviet Union, taken together. The conclusion reached, of course, was that German steel production was so inferior that they could not possibly afford to mount a very substantial military effort.

That conclusion turned out to be wrong because the steel was being put into the kind of thing that was needed to mount that military effort in Germany, whereas it was not being put into those areas in particular in the Western Powers.

Chairman PROXMIRE. I think that is another excellent point, but if this letter that you quote can be believed, and you quote it, and I think perhaps it can, that they say we are hundreds of times ahead of them in the computer area, which is so important for the future of technological development, would you not say that this would be a crucial factor to our advantage?

Mr. DAVIES. Yes, sir; I think it is. I think, too, that we have to——

Chairman PROXMIRE. Let me go back to one thing: you talked about the United States as a kind of decathlon athlete, capable and able in all kinds of fields; agriculture, the military area, and consumer production, and so forth, while the Russians are now specializing in the military and we have to recognize that that can be the really competitive factor.

But, the problem with that analogy is that these other things feed into the military capability. If you do not have a computer technology your capability for future military strength is very much diminished.

In your statement you point to the agricultural advantage we have and use a figure which I have not seen before, which is much greater than I have seen. I thought we had seven times less people working in agriculture: but you say they have nine times as many people in agriculture, but they produce only three-quarters as much. This is a tremendous military weakness because their manpower has to be so overwhelmingly absorbed so that they cannot use it when they need it as effectively as we can because we have such a relatively efficient agriculture.

So, these things are related. You cannot say because they are specializing in one area that it is a strength. It seems to me it is a weakness. It gives us a greater flexibility and gives us a military advantage.

Mr. DAVIES. Yes, sir; they are related. But, if we take the field of agriculture to which you were pointing, the situation was even worse in the Soviet Union before the Second World War.

Chairman PROXMIRE. Yes, but it is improving.

Mr. DAVIES. The fact was that the male population of the country was mobilized. The situation now is that as a result of the subtraction of very substantial numbers of male agricultural workers, you have a situation where the people down on the farm are primarily female. It is a little difficult for us, it seems to me, looking from our society where it is almost unimaginable that you would have farms worked almost exclusively by women, to put ourselves into this particular framework.

But, the fact of the matter is that is what has happened and the effects are still being felt in the Soviet Union and the implications of that for the kind of mobilization that one contemplates when one thinks of general war are clear. That is, the men are taken for military service and the ladies and the kids stay back on the farm.

Chairman PROXMIRE. Well, I would like to see a really careful analysis of that, because I have visited our farms in Wisconsin very intensively and it is remarkable how much work the women do on the farm. Very often in my State the man will have a job in the factory, and the wife will work the farm. That is quite typical. Forty percent of the farmers in our State have jobs, full-time jobs off the farm and their wives will operate the tractors; they will do a great deal of the work, and the kids work, too, before school, after school, all summer. Family farms, the American family farm is an enormously efficient operation, so I think we do not have a situation where the farm wife is taking it easy or working only in the kitchen or anything of that kind.

As you know, she really works the farm and works it hard.

Mr. DAVIES. Yes.

Chairman PROXMIRE. So, I think that analogy, too, is somewhat enfeebled—I mean that argument you make is somewhat enfeebled by the fact that we use women rather extensively in farm work.

Let me ask you, Mr. Davies: as you know, a spokesman for the Department of Defense has asserted that a large spending gap for military and military-related technology exists between the Soviet Union and the United States, and they estimate it is 40 percent, and if the present spending trend continues we will be outstripped in a few years. Do you agree with that or disagree?

Mr. DAVIES. Mr. Chairman, the Department of State is not responsible for work in this particular area of research study. That is a responsibility of the Department of Defense, and I am not competent by my position, nor knowledgeable about this area, and I could not make any definitive pronouncements on it.

Chairman PROXMIRE. Well, do you have any figures on the amount that the United States spends in U.S. dollars and the amount that the Soviet Union spends for military goods and services? Mr. Block? Mr. Davies? Do you have those figures?

Mr. DAVIES. You mean for research and development?

Chairman PROXMIRE. No; I want first overall and then research and development.

Mr. BLOCK. You mean total military spending?

Chairman PROXMIRE. First I want to know the total military spending for goods and services by the United States and the Soviet Union, in your best judgment, in U.S. dollars?

Mr. BLOCK. In present dollars, and one has to be very careful as to what dollars one refers to, our spending is probably close to $80 billion, and translated into American prices theirs would be around $70 billion.

Chairman PROXMIRE. Theirs is a little less?

Mr. BLOCK. Yes.

Chairman PROXMIRE. How about in research and development, do you have the figures for that?

Mr. BLOCK. For this I do not have figures. I am sorry.

Chairman PROXMIRE. Mr. Nelson or Mr. Rathjens, do you gentlemen have those figures?

Mr. RATHJENS. Well, my understanding is that the DOD figures on military related R. & D. are on the order of $7½ billion in our case and $3 billion more in theirs. But, those are their figures; not mine.

Chairman PROXMIRE. Will you say that again?

Mr. RATHJENS. My understanding is that the DOD figure is about $7½ billion for the United States and about $3 billion more in dollar equivalent for the Soviet expenditure on militarily related R. & D. But, for some of the reasons I have given I am skeptical about the ruble-to-dollar conversion, and I am a little skeptical about some of the things that might or might not be counted in both cases.

Chairman PROXMIRE. Well, you see what puzzles me about your answer, Mr. Davies, is you say in your statement: "The cost of Soviet military R. & D. and all space programs, when expressed in American prices, appears now to exceed American spending."

Mr. DAVIES. Yes, sir.

Chairman PROXMIRE. You see, you cannot tell us how that is derived except that your figures rely on the Defense Department?

Mr. DAVIES. That is right, sir.

Chairman PROXMIRE. I see. Well, we will have to get the Defense Department up to give us their answers.

I notice you included space in your figures for military and military-related expenditures. This committee believes that space spending ought to be included in the total national security outlays, although they are not carried that way in the budget. Why? What is your reason for including the space figures in the figures you have presented?

Mr. DAVIES. Well, primarily the reason, Mr. Chairman, is that this is the way these figures are put together in the Government. We have not determined the formula for putting them together.

Chairman PROXMIRE. Well, in the budget they are separated, as you know; they are not put together. We have NASA as a separate element.

Mr. DAVIES. Yes. But, on the Soviet side my understanding is that they are all included together; consequently when we make a comparison on the American side we have to include them there, too.

Chairman PROXMIRE. I would like to pursue another point that Mr. Rathjens made with you, Mr. Davies. Mr. Rathjens points out that most of the R. & D. is D; that is, development. It is not research, but mostly development, and not all of this is in the category of new technology. Much, if not most of our R. & D. costs go into the production of prototypes and other efforts more in the nature of production than research or new technology. Have you tried to separate the technology base out of the Soviet figure and U.S. packages and compare them? I wonder if you think it is possible to do that?

Mr. DAVIES. We have not tried to separate it out; no, sir.

Chairman PROXMIRE. Do you know anything about any effort to separate them out, Mr. Rathjens?

Mr. RATHJENS. I cannot comment on any specific efforts.

Chairman PROXMIRE. Because that is a very interesting difference that you called to our attention, that we are lumping R. & D. and as you point out. Some of the development I have seen on so many of the programs we have had has not been very new, and I think if we compare the actual research, military research, conducted by the two countries we might get a better notion of how we stand.

Mr. RATHJENS. That would be very interesting, if I may just comment on that. I would suggest that when you are really talking about research it is going to be very hard to distinguish between military and civilian. When you are talking about physics, for example, that could be very relevant to both, I am not sure whether you would call that civilian or militarily related research. But, the comparisons of the overall research effort in the two countries, I think, would show that in terms of output we are, in most areas, significantly ahead. We do a great deal better than they do, and it is interesting—may I take just a moment to elaborate?

Chairman PROXMIRE. Yes, indeed.

Mr. RATHJENS. I would quote here from some statements by the recent Soviet defector Fedoseyev, who says in effect that the great disadvantage——

Chairman PROXMIRE. Will you qualify him? What is his background?

Mr. RATHJENS. He was involved, as I understand it, in the Soviet aerospace industry, and in particular was involved in the development of very powerful magnetrons for use in radar work, so he is, to the best of my understanding, essentially, a military-type technologist.

If I may quote a paragraph from a recent story of his that came out in the London Sunday Telegraph, it said:

> The great disadvantage of Soviet political control of science is, as I have already indicated, that it actively discourages enterprise and originality. You have only to study the scientific journals published in Russia over, say the past year, to see how much the Soviet scientists depend on the West for new developments. Although there are, in absolute terms, more scientists in the Soviet Union than in America, they produce, as I have indicated, very little that is new.

Now, I am not sure that I would agree with the statement that there are more Soviet scientists than there are American. It is probably a matter of definition. But, in terms of productivity, with a few exceptions, I would say that in most areas, we lead.

Chairman PROXMIRE. So, it is so very, very hard to get at this, and Dr. Davies' very interesting statement indicates——

Mr. DAVIES. Not "Doctor," sir.

Chairman PROXMIRE. Mr. Davies' interesting statement indicates the far greater amount that the Soviet Union is pouring into agricultural technology. Their agricultural investment is just becoming enormous, far greater than ours, and yet is not getting any results and, of course, it is improving some, and they may be able to reduce the enormous gap, but we are way ahead of them.

I get the impression, Mr. Davies, from your analysis that the tech-

nological gap, to the extent that there is one, is quite in our advantage.

Mr. DAVIES. Yes, sir.

Chairman PROXMIRE. There is a gap. We have the military technological advantage over the Soviet Union; they do not have it over us now. Is that correct?

Mr. DAVIES. Mr. Chairman, I think the technology gap is enormous throughout the economy, in general terms.

Chairman PROXMIRE. The technology gap is in our favor throughout the economy, but how about in the military area?

Mr. DAVIES. But when we get into this area I think there are two problems: one is the secretiveness and the other is a borrownig which I believe was referred to here. In fact, we do not know with any accuracy what they are doing and exactly how, except for such glimpses that we get from people like Fedoseyev who came out and who worked in one restricted area.

So, I myself think it would be prudent not to assume that the gap in the general economy was identical with the gap in terms of military technology. They do concentrate their best talents in this field. In fact, my feeling is that doing so, monopolizing to a very considerable degree the ablest people they have for work on military-related research and development, is one of the reasons why they are so far behind in other areas of the economy.

In fact, when you look at the Soviet Union, I think one could only say—and it is an understatement—that they have been rather wasteful, very wasteful, in their use of trained manpower. With regard to the intelligentsia, they have lost large parts of their intellectual class, beginning with the Revolution. These people have left and have been driven out, and of course, the country started at a very low educational level in 1917 so that it has been quite a job for them to replace some of these losses.

But, if they do concentrate their best people, as I believe they do, in defense and defense-related research and development, you already have part of the explanation, it seems to me, as to why they are so far behind in some of the things we see.

Chairman PROXMIRE. Will you give us your appraisal of the relationship between the two countries in military technology again? Are they ahead or are we ahead, and if there is a gap, in whose advantage is it?

Mr. DAVIES. Mr. Chairman, I think we are about even in terms of general level of military technology, as far as I, as a layman, am able to observe it. They have missiles; they have produced now an all-ocean navy; they have an effective, a very effective, air force. I am not able to give you the particulars with regard to the comparison on both sides. That is, again, not my job, but it does seem to me that they have done a remarkable job of pulling up to within relative proximity of the United States in this field.

Chairman PROXMIRE. Yes, but again, taking the computer technology alone, and maybe this letter that you have quoted is not reliable, but if we are hundreds of times ahead of them because computers are so vital and important, and computer technology, it seems to me that our advantage must be considerable.

Now, in MIRV's for example, we are way ahead of them in long-range bombers. Our missiles, while they may not have the megaton-

nage, are far more numerous and far more widely deployed. Mr. Rathjens is the expert in this area.

How about it, Mr. Rathjens?

Mr. RATHJENS. Well, I would disagree very sharply with Mr. Davies. I think that in one or two areas we can identify they probably have a slight edge. In a number of others I would say that things are about on par, and in a very large number we are demonstrably and clearly at least 2 or 3 years, and in some cases, 4 or 5 years ahead.

Now, you have identified some of these latter ones in the strategic area.

The reasons our missiles are smaller—ours cannot carry the megatonnage, theirs can—is because we have a more sophisticated technology. We long since decided that we could do the same kind of job that perhaps they want to do with warheads of 10 megatons with warheads in the 1 megaton or kiloton range. The reason we can do that is because we are ahead in the understanding of the problems of reentry physics and because we are ahead in inertial guidance, so that we can deliver our ordnance with more accuracy.

In other areas, in almost every one with respect to strategic weaponry that I can identify, I submit we are ahead. In radar technology we are substantially ahead; phased-array radars, essential for ABM work, were developed in this country. I do not think much of ABM systems in general, but if you are going to have them, that is about the only hope, the phased-array radar, and one that operates at a fairly high frequency, in which we are ahead.

We are also ahead in terms of antisubmarine warfare; way ahead. I am also sure we are far ahead of them in that our submarines produce less noise and in other respects we are superior. I could go on and identify other areas.

Chairman PROXMIRE. Let me interrupt. Now, your views seem to conflict, not only with Mr. Davies, but with the Pentagon, and let me just ask you about that: as I understand it they would disagree from what they have said with the argument that we have a significant lead over the Soviet Union in most areas of military technology and many of the relevant sciences on which technology depends. They may not differ so much on the latter, but on the former.

No. 1: Have you had access to classified data, and No. 2: Have you discussed this with Mr. John Foster, who is, as you know, the Defense Assistant Secretary for Research and Engineering, and their prime expert in this area?

Mr. RATHJENS. Well, I have access to classified information, and exposure to it on a fairly regular basis. I have met, along with Mr. Nelson here, with Mr. Foster and his principal deputy to discuss these matters. Now, due to lack of time that discussion turned out not to be very satisfactory. It was primarily a discussion of the techniques they used in producing their figures.

My own feeling is that if you talk to the people in the Defense Department and ask them about particular areas of technology—you ask them who is ahead in phased-array radar technology—they will tell you that the United States is. You ask: Who has the quietest submarines, and they will say: the details are classified; we cannot tell you much, but ours are clearly better than theirs. If you go through one thing after another you are going to get that kind of a response.

Now, you have to do that. If you do not, you will get general remarks to the effect that the gap is being closed, and that they are doing great things. You have got to get some specifics, I think, to really get an understanding of this.

I do believe that the most recent DOD statements concede that we still probably have a lead of 2 to 3 years in most areas with, as I said earlier, their having a lead in one or two.

Chairman PROXMIRE. You say that substantial savings could be made by cutting back on strategic programs, Mr. Rathjens. Can you list the programs that you would cut back and indicate the savings that would result? And, incidentally, you might try and reconcile that with a statement that 2 or 3 years from now they may be ahead in tactical weapons.

Mr. RATHJENS. Well, of course, the reconciliation is that we are talking about two different things: tactical weapons and strategic weapons. But in the strategic area, I guess I would start with the Safeguard system. That is going to be several billion dollars, some of it R. & D. money still, and some of it procurement, and I see no great need to spend that.

The B–1 program we are about to accelerate, and my understanding is that in this year's budget they are asking for $380 million, which is, as I point out in my prepared statement, about 60 percent of the whole NSF budget. That is a shocking thing, I think. It is a system which we do not need, one which will cost about $3 billion, according to the DOD's own estimate before it is finished, just to get it through the R. & D. and prototype phase, and my guess is that it would be more. I see no reason to carry that through.

We are in for $110 million, I believe, for the ULMS program. I think of all of the new strategic concepts that are interesting, that is probably the most interesting, but I am still skeptical about the need for spending that kind of money when there is not any clear view that we will really need it.

I suppose there are two or three others that one could also——

Chairman PROXMIRE. The B–1?

Mr. RATHJENS. The B–1 I mentioned: $380 million, and I think that is totally unneeded at this time.

Chairman PROXMIRE. AWACS?

Mr. RATHJENS. I do not see that it does us any good to spend a lot of money on an air defense system when we know that we cannot do anything about missiles, and the major threat is from missiles: ICBM's and the submarine-launched missiles.

Perhaps some work on AWACS is desirable because it does have utility possibly in a tactical environment, as well as for strategic purposes, but as a component of our strategic forces, I do not see that it is necessary.

Chairman PROXMIRE. You say we are ahead in the antisubmarine warfare. Would you cut back in this area at all?

Mr. RATHJENS. This is one that causes me something of a problem, and I guess I would not want to make a judgment at this point in time, and the reason for that is—well, I will make a judgment, but first I want to qualify it.

Antisubmarine warfare, of course, is relevant to dealing with Soviet missile-launching submarines, a strategic problem, and it may also

be of importance in dealing with tactical situations, so I have some conflict there. But, I will make the judgment that we probably could cut back, and I do so because I think ASW is so unpromising technically. It is very difficult to do and I have feeling that we will spend an enormous amount for relatively marginal improvements in capability. I suspect just on the grounds of technical feasibility and promise it is not a good bet.

Chairman PROXMIRE You suggested, and I think maybe your specific answer takes care of it, but you suggested we might proceed with our research and be very careful in the development area because that is where the expenditure is, and very often the developments are unjustifiable. But, is not the development and testing essential to prove your research and make it effective, and if you just engage in research without developing prototypes, and without testing them out, is it not likely to be empty and useless?

Mr. RATHJENS. Well, I feel that engineering, testing and field trials are essential if you are going to have confidence in the systems that you may expect to be using. If we are going to be using tactical aircraft somewhere in the world, or for that matter, if our allies are—if the Israelis are—going to be using our aircraft, I think those aircraft have to go through the whole R.D.T. & E. cycle. You cannot cut that sort of thing short and have the kind of confidence in those systems that you want. Therefore, I am favorably disposed in general towards a "fly-before-you-buy" philosophy with respect to these tactical systems that might actually be used.

On the other hand, as I tried to make clear in my testimony, I feel the contrast between those and the strategic weapons is very sharp indeed. If our missiles are only 10 percent reliable I think that is a very good deterrent. If I thought that the Russian missiles were 10 percent reliable I would have grave reservations about doing anything that might initiate a nuclear war. If they are 50 percent instead of 10 percent reliable, it does not make that much difference. You will likely have roughly the same number of Americans killed in either case because there is so much overkill. If you are talking about a new strategic system I do not think that makes very much difference in the overall balance, because we just have so much on both sides.

Chairman PROXMIRE. Well, now, you see, that fits in with your argument that maybe in 2 or 3 years we may be spending too little on tactical weapons.

Mr. RATHJENS. I think there is some risk of that.

Chairman PROXMIRE. Your argument is we have overkill now in the strategic area.

What was the table of the Secretary of Defense in 1968? It indicated that 400 nuclear force loads would be enough to devastate 75 percent of the Soviet industry and kill 30 percent of its people, and we have over 4,000, as I understand it, and not counting what we have available in Europe to deliver on the Soviet Union, which is another 4,000, so we have about 10 to 20 times as much as we need to devastate the Soviet Union.

Mr. RATHJENS. That is exactly my point, and I think further expenditures in this area are unneeded ones. I think many are unnecessary. Such expenditures just cause an erosion in the confidence of the people in this country in the way their Government is being run.

Chairman PROXMIRE. Now, Professor Nelson, in your statement you reject two ways of measuring the strategic balance or the threat to national security. One is the ratio of bombers plus missiles, or warheads, or yield.

The other is the ratio of accumulated military research and development spending. What is wrong with each of these measures and what would you use in their place?

Mr. NELSON. The problem is with counting ratios of warheads or proxies for warheads for delivery systems and using this as a threat index. What you are really interested in is the strategic balance or threat. The key consideration is the extent to which what the United States has at any given point in time poses a serious risk to the Soviet Union of incredible levels of damage should they engage in an attack upon the United States. Calculations here have to take into account what they can knock out on their first strike and so on. Ratios warheads do not get at this. Yet, there is more sense in using these ratios of warheads as an indication of threat than in keying our military research and development effort to a certain ratio with that of the Soviet Union.

The reasons have been quite well articulated by George Rathjens. In the first place, even if one can associated larger accumulated military research and development budgets with an average technological lead across a spectrum of technological systems, the fact that one nation or another has a technologically more sophisticated weapons system does not necessarily pose a significant threat.

The notion that somehow our military security can be measured by listing a number of weapons systems, and asking the question: Are we ahead on a larger number of them than we are behind, is absurd. You have to go back and do the kinds of calculations and the kind of analyses relating to the nature of the threat, what they will be able to take out in a strategic attack, and whether what is preserved is a credible deterrent or not.

Chairman PROXMIRE. This is all based on the arguments that we have heard about and were enumerated a moment ago, that we have a capability of devastating the Soviet Union, and they have the capability of devastating the United States, and it is a standoff. An initiative from either country would result in mutual suicide and, therefore, to compare the two is just an exercise in futility because, as I say, we have more than enough to devastate the Soviet Union, and they have more than enough that they can still devastate this country, so why worry about who is ahead by 10 percent or behind by 10 percent?

Mr. NELSON. I think one wants to go through the analysis to make sure the balance is not very delicate, and I think it is also true one can conceive of a technological development that would tilt it, but these do not seem to be, as I understand the situation, rapidly coming up, and we ought to have a reasonable amount of warning before they do.

Chairman PROXMIRE. Where is this kind of careful analysis of force levels and so forth? Where is that available? Who is doing that?

Mr. NELSON. I would assume that the Pentagon has the deepest responsibility for doing that.

Chairman PROXMIRE. But are they doing it? They may have the responsibility for it, but do you know as a matter of fact, that they

are doing it? You have talked with people over there; are they doing it or not doing it?

Mr. NELSON. I do not have enough knowledge as to what kind of work they are doing to be able to answer that question.

Chairman PROXMIRE. The R. & D. analysis does not give this Senator much confidence that they are doing it, or if they are doing it they are doing it very competently. But, in your testimony, Mr. Nelson, you go further than others, than any other witness we have had before us, in not only discounting the notion that there is imminent a technology gap, but you go on in asserting, and I quote:

> The objective of maintaining or achieving across-the-board technological leadership is not a desirable one, much less a desirable guide in U.S. policy.

That seems to puncture a hole in one of the most firmly held ideas in American society; namely, that they are technological champions of the world, and unless we maintain that title we become a second-rate nation.

Can you elaborate a little further on that view? It is most unusual.

Mr. NELSON. I think it is a view we are increasingly going to have to live with.

Chairman PROXMIRE. Why do we have to live with it? All of the testimony this morning is that we may or may not have a lead in the military area. I think we do. Mr. Rathjens thinks we do. Mr. Davies, I think, thinks we are on about a par, but if we all agree we have a great lead everywhere else, why do we have to surrender that, and why is that not a desirable objective?

Mr. NELSON. Because it is not viable, and I suspect that striving after it is going to lead us into horrendous costs for very little value. We are talking about the general technological progress. Are we talking about economics, Senator? Are we talking about the military?

Chairman PROXMIRE. Well, I am talking about the great advantage to this country and to our position in the world, and our opportunity to help build a better world if we are technologically excellent and technologically advanced and recognizing, of course, the environmental fallout that may or may not be adverse, and all of the other elements. What is wrong with wanting to continue to develop technologically and to continue to lead the world in technological achievement?

One of the aspects of technology, of course, is we can do a better job of reducing environmental pollution.

Mr. NELSON. I think economic progressivity and technological excellence is exactly what the United States should be striving for. This is not exactly the same thing as striving for "technological leadership." One can be excellent; one can be progressive, and at the same time need not necessarily, in every case, be first.

I think what is happening in the postwar world, particularly with the 1960's, is that we are living with other nations that are greatly strengthening their technological bases. The notion that there is some inevitable power such that the United States will always be ahead in all areas of Germany, Japan, or even the Soviet Union, strikes me as arrogance on our part.

Chairman PROXMIRE. Do you have any anlysis to support that, any cases you can think of?

Mr. NELSON. Yes. I think that if you look at the record of productivity growth and the evolution of trade patterns from about the mid-1950's to the present time one can observe relatively sharply a narrowing of productivity differentials in a wide variety of industries between the United States and prominent countries in Western Europe, and most certainly Japan. If you look at what is going on there you can see a number of reasons why that narrowing is taking place.

Up until sometime after World War II the educational attainments of the work force in the United States was vastly greater than any other country of the world, measured in terms of college graduates, or high school graduates.

Sometime in the late 1940's and the early 1950's the educational distribution in Germany and France, and Japan began to look much more like that of the United States. Similarly, if you look in the late 1950's and early 1960's at the research and development expenditures in the world, it is dominantly the United States and the United Kingdom. During the 1960's the percentage of the total free world research and development spending accounted for by these two powers has shrunk rather significantly, not so much because we have lagged, but because everybody else is pulling up.

Chairman PROXMIRE. You are saying, maybe, Mr. Nelson, it may be better to be a copycat than to be out in the front and be pioneers. After all, we have led in steel, I suppose, and ground transportation and electronics and so forth, and now these other countries are surpassing us. They have more modern steel plants and far better mass transportation, and the Japanese are quickly moving into a position of superiority perhaps in electronics. And, therefore, some of our technological advantage has been overcome by the fact that they can take advantage of it. Is that part of it?

Mr. NELSON. I suspect in many areas the United States is going to have a technological lead over other countries. In many others we are not going to have it, and going off after it is not a very fruitful objective for policy. Yes; I think we are going to have more and more chances for importing and imitating what other people are doing. The asymmetry that has existed technologically for the last number of years is going to balance out a little bit.

I expect with sensible policies we can relax and enjoy this.

Chairman PROXMIRE. Let me just ask you gentlemen something that has bothered me quite a bit: the testimony we received yesterday and today indicate how far ahead we are technologically of the Soviet Union. Now, you may know that I was not exactly a great champion of the supersonic transport. I did my best to stop it, and we succeeded in knocking out the Federal subsidy for it. I thought if somebody wanted to go ahead commercially, fine, provided it was not a threat to the environment.

Now, the Soviet Union we are told, is moving ahead in the supersonic transport area; they are going to have a supersonic transport that is going to be at least comparable to the British-French Concorde. Does this give you some second thougths about their technology, aside from the military area? Or is this simply a matter of their picking up the technology of the British and the French, or are the Russians making another blunder with their SST?

Mr. Servan-Scheiber called the British-French Concorde an industrial Vietnam. It is a disaster. It has cost four times as much as they expected it to cost. The markets just are not there for it; it is a serious blunder and mistake on the part of the British and French in his view. He may be wrong, but at least they seem to have some kind of technological capability in this area.

Does this give you any second thoughts on that, Mr. Rathjens?

Mr. RATHJENS. Well, as you know, Senator——

Chairman PROXMIRE. You were also a great opponent of the SST.

Mr. RATHJENS. Yes, I was.

I would like to comment on that. I am with you. If the market economy of this country wanted to support the SST, I would have been favorably disposed, provided the environmental hazards were not severe.

As far as the Soviet Union's doing it, I think that it is not surprising. I do not really think it represents much in the way of new technology. We, and they, have flying military supersonic aircraft for years, and as you know, many of their commercial aircraft have drawn very heavily on their military technology.

A Federal subsidy in this country for a supersonic transport would imply much more of a distortion of our way of doing buisness than does the Soviet SST decision imply in this case. They have what I regard as relatively inefficient management, decisionmaking, and financing structures, and the supersonic transport is unlikely to lead to any greater inefficiencies in this system than anything else they do. In our case I think further Federal support of the SST would have been an undesirable distortion. From their perspective perhaps it makes more sense for them to do it. They will not be hurting themselves as much as we would.

In line with Dick Nelson's remarks, maybe that is a good area where we should let somebody else lead while we spend equivalent resources on some things that have greater payoff. It is a question of priorities. I think the SST will have some payoff for some people, but I think we can realize a greater return on an equivalent investment, and I believe the American capital market believes that, too, by putting our resources into other areas as we should do.

Chairman PROXMIRE. Do you gentlemen have any differing views on the SST issue?

Mr. DAVIES. Well, Mr. Chairman, I should say that I have no view on the SST problem in the United States. But I think so far as the Soviet SST is concerned we are going to have to see how it works out commercially. And I agree to a considerable extent with Mr. Rathjens that this kind of decision does not tend to be made on purely or even partially commercial bases on the Soviet Union. Obviously a strong reason, it seems to me, for the Soviets going ahead with it is the political-psychological one, comparable to that which attended their space effort. How it is going to work is going to depend on how effective it turns out to be, and how profitable.

Chairman PROXMIRE. I think that is right, as far as I can see it. You just cannot see anything but a commercial disaster for Russia with the SST. I think the Concorde will be bad, but this will be much worse. The Russians do not have the kind of record or reputation in aircraft manufacturing for maintenance that this country has or

that the British and the French have, and there again, again they have a bad reputation for making their decisions politically rather than economically as far as their commercial products are concerned.

Some airline could spend $25 million of $30 million for the Russian supersonic transport and find because the relationships between this country and Russia were what they were, they are not able to get any spare parts or servicing of the kind they need.

At any rate, the Russians have not been successful in selling any other commercial planes, except a few planes, I understand that they sold to Italy a few years ago, but it is a very weak record.

I would like to ask Mr. Rathjens: Do you agree with the statement in Mr. Davies testimony, and I quote: "That there exists no simple yardstick for measuring the technological gap, quite apart from the secretiveness shrouding Soviet performance"? And one of the things that interests me about the statement is that it coincides with the conclusions reached by the General Accounting Office in its recent study: "Comparison of Military Research and Development Expenditures of the United States and the Soviet Union."

In your answer I would like you to comment on the GAO report, and I would like to have Mr. Davies also comment on it.

Mr. RATHJENS. Well, to deal with your first question, I would have to agree that there is no simple way of doing it. I would underline the word simple. I think that by making various kinds of comparisons, some of which the DOD has done, one can throw some light on this question, and in that connection I think what the DOD has done is in some respects reasonable.

What they have attempted to do is look and see when in time we have had a certain capability and when in time the Soviet Union has had a comparable one. There are some areas where we have both been going down the same path where you can make a comparison. But, it can be enormously misleading for at least two reasons. One I identified in my prepared statement, and that is that the fellow who is following has an easier time of it; and the other reason is that there is no reason to believe that the two countries are necessarily equally interested in doing the same things. So, I would have to agree that there is no simple way of doing it.

Now, to comment briefly on the GAO report: I have read it, but I have not had an opportunity to study it with great care. I believe that in general I would agree with most of the findings. I believe it was a very constructive thing for them to have done, and it was very desirable for the Congress to receive it.

Chairman PROXMIRE. Mr. Davies.

Mr. DAVIES. Mr. Chairman, on the question of the technological gap, I cannot help remembering what was said to me by a friend in Moscow in 1951. He said, "How can these people build missiles when they cannot even make the toilets work?" Well, they built the missiles, and obviously there was a rational explanation for why they were able to do this and why they did not bother to make the toilets work. It does seem to me they concentrate resources, and the most precious and valuable of those are manpower, very consciously and carefully in the areas of the highest priority.

Chairman PROXMIRE. This is a kind of a hunch feeling and it may be right; it may be the best kind of feeling you can get in this, but

you see the difficulty is one I think was expressed well by the GAO. They said that Mr. Foster admits that the United States is still technologically ahead of the Soviet Union by perhaps 2 or 3 years on the average.

He believes, however, that if present trends continue, the larger and increasing Soviet Union effort could result in the Soviet Union assuming technological superiority in military R. & D. in the latter half of this decade which, along with the trend toward improved Soviet Union quality, could seriously jeopardize the United States margin of security in the 1975–85 period.

Now, the conclusion reached by the GAO is that, as I get it, is that you just cannot compare them; the problem or comparison is just overwhelming, even though they may or may not be right about $3 billion more being spent. I think there is considerable question about that. Even if they did it would be very, very hard to reach the conclusion that that would necessarily put them ahead. This seems to be consistent with your statement, Mr. Davies.

Mr. DAVIES. Sir.

Chairman PROXMIRE. I say that seems to be consistent with your own statement.

Mr. DAVIES. That they are not likely——

Chairman PROXMIRE. That it would be very hard to draw a conclusion even on the assumption they are spending $3 billion more, which I think is subject to real challenge, but even if they are, it would be hard to draw the conclusion that that would put them ahead, as Mr. Foster says, that it might seriously jeopardize the margin of security in the 1975–85 period.

Mr. DAVIES. Well, Mr. Chairman, I do not think that one can make a valid conclusion in terms of this field as a whole, but I certainly think when you look at the specific fields where we know what their position is, what they are producing, what they are turning out, we are working on comparable things and one can make a judgment. We do see certain military products which the Soviets have turned out, one replacing the other, and we recognize that if they are not every bit as technologically advanced as ours, they are effective.

Now, I think Mr. Rathjens himself has referred to this possibility of Soviet advance. It was relatively little a number of years ago, the possibility of it, and particularly in tactical weapons. This would concern me, sir, if it were to turn out that they achieved such advances which put us at a relative disadvantage in areas where it was necessary for us to deploy tactical weapons.

Chairman PROXMIRE. Yes; but I want to nail down this Mr. Foster statement because he makes the assertion we are in serious jeopardy in 1975–85, and what you say in your statement is:

There exists no simple yardstick for measuring technological gap, quite apart from the secretiveness shrouding Soviet performance. Much of the evidence is impressionistic and in the nature of appraising Soviet equipment at intervals and finding it a growing number of years behind, say, similar U.S. equipment, and so forth.

I get from that that you just would not buy that notion.

Mr. DAVIES. No; I do not think that would be a justifiable conclusion, Mr. Chairman. If I might put it in these terms: We are talking here of the Soviet economy as a whole, and not specifically of military R. & D. The same applies to the quotation from Sakharov

and his colleagues. What he is concentrating on there, it seems to me, and you have referred to his reference to the lag in the computer technology—what he is referring to there is primarily the application of computers in the economy, across-the-board sweep of the economy as a whole, and particularly he refers to specific fields here: Oil drilling, gas drilling.

I think the context he is building is more macroeconomic than micro in terms of the defense R. & D. development and effort. That was what I was referring to when I talked about the technological gap.

Chairman PROXMIRE. In this Government the overwhelming majority of our computers are in defense, used by the Department of Defense.

Mr. DAVIES. Yes. sir.

Chairman PROXMIRE. Eighty percent of the Government computers are used by the Defense Department.

Mr. DAVIES. Yes, sir.

Chairman PROXMIRE. So, if they are hundreds of times behind us, as your testimony suggested, they must have a real deficiency within the Defense Establishment, too.

Mr. DAVIES. No; but there can be a much greater concentration of computers in the Soviet Union in the military field.

Chairman PROXMIRE. I imagine there probably is.

Let me ask you this because I think it indicates some question about the $3 billion advantage figure; that is, they claim that the Soviets are spending about $3 billion more each year than the United States for military research and development. As you know, a key point in the Pentagon's calculation is an assumption that Soviet expenditures on the space program have leveled off since 1968 with all of the R.D.T. & E. growth formerly allocated to space programs now being channeled into defense R. & D. This is a crucial assumption, since if the Soviet space R. & D. has not leveled off since 1968, a military R. & D. gap cannot have arisen, even assuming the accuracy of all other Pentagon calculations.

It is therefore interesting to contrast Pentagon claims with the testimony of Mr. George M. Low, Deputy Administrator of NASA, before the Senate Aeronautical and Space Sciences Committee on March 17 of this year.

In response to a question about Soviet space expenditures, Mr. Low said:

> In terms of their total space program, both civil and military, we believe they are investing at least as much effort as the United States, and probably more.
>
> It seems fair to say that they are maintaining and increasing their program effort in that this effort exceeds that of the United States. With this policy of steadily increasing R. & D. investment, they will soon match and then surpass the United States in both program size and accomplishment unless we act positively and energetically to retain or extend our technological lead.

So, there seems to be a difference of opinion between the Pentagon and NASA as to just what the Russians are doing in their space program. Not surprisingly, perhaps, the position taken by each agency is tailored to maximizing its own research budget.

Now, I would like to ask you gentlemen: It seems to me that the consensus of the witnesses this morning is that there is no hard evidence, No. 1, that the United States is threatened by military or space

technology gaps in the foreseeable future, no hard evidence, or that, No. 2, we ought to increase spending for military R. & D.

Does anyone here disagree with what I have just said?

Mr. DAVIES. Mr. Chairman, I do not disagree, but I would defer to the people in the Government who deal as a matter of professional competence and official assignment with these matters.

Chairman PROXMIRE. Well, you would not disagree with the argument that there is no hard evidence that the United States is threatened by a military or space gap in the foreseeable future or that the—we ought to spend more on military R. & D. and you say you would defer that to the Pentagon?

Mr. DAVIS. Yes, sir.

Chairman PROXMIRE. Mr. Nelson or Mr. Rathjens?

Mr. NELSON. I would agree with the statement that you made.

Chairman PROXMIRE. Mr. Rathjens?

Mr. RATHJENS. I agree with both of them.

Chairman PROXMIRE. There is also a strong feeling that the United States can well afford to reduce military R. & D. outlays, although the composition of military R. & D. ought to be shifted so more funds ought to be channeled into the research portions, research and development, if I understand the testimony, and national security would be actually even strengthened with the reduction and the shift in emphasis.

I take it this is the position of Mr. Rathjens, although I may not have stated it precisely correctly. Is that right?

Mr. RATHJENS. That is essentially correct. I believe one could improve our position if one could emphasize more the research end of the spectrum, and I would see no jeopardy in some overall reductions if the major part of the reduction came out of some of the strategic programs such as the B–1.

Chairman PROXMIRE. Mr. Nelson?

Mr. NELSON. I have not followed the developments in the strategic area closely enough over the last number of years to be able to take a sensible position on this.

Chairman PROXMIRE. Mr. Davies.

Mr. DAVIES. Sir, I will have to return to my comparison of the decathlon champion. I just hope—these are matters on which I am not in the line of command—I hope that we do not end up falling behind in the military field, because I do feel that would put us at a disadvantage.

Chairman PROXMIRE. Well, I certainly agree 100 percent. I think I would not fault you a bit on that. I hope we do not fall behind either, and I do not think we should. I feel very strongly about that. The question is finding out what we have to do to maintain——

Mr. DAVIES. I understand, and you cannot really make a judgment.

Chairman PROXMIRE. That is the judgment we have to make when we vote on these budgets.

Mr. DAVIES. I understand that, sir, but I cannot make it for you. That, of course, is why you are holding the hearings.

Chairman PROXMIRE. Well, all of you gentlemen have contributed a great deal and we are very grateful to you. Your statements are among the best that I have seen, and I deeply appreciate your appearance and your responsiveness this morning.

On Wednesday, tomorrow, our witnesses will be Mr. Jerome Cohen of Harvard University, professor of law and director of East Asian legal studies; John Fairbanks, professor of history and director of East Asian Research Center; and Allen Whiting, professor of political science at the University of Michigan, who will be testifying primarily on the Chinese economy and the military threat that represents.

The subcommittee will stand in recess.

(Whereupon, at 12:20 p.m., the subcommittee was recessed, to reconvene at 10 a.m., Wednesday, August 11, 1971.)

(The following information was subsequently supplied for the record:)

RESPONSE OF RICHARD R. NELSON TO ADDITIONAL WRITTEN QUESTIONS POSED BY SENATOR MILLER

Question 1. Have you made an independent study of United States and U.S.S.R. expenditures on R.D.T. & E.?

Answer. I have not made an independent survey of United States and U.S.S.R. expenditures on military research development.

Question 2. Do you find the DOD's position to be correct, that is, that military-related United States. R.D.T. & E. expenditures are declining while military-related Soviet R.D.T. & E. expenditures are increasing?

Answer. I suspect that the Department of Defense is correct in betting that Soviet military research and development is rising relative to our own.

Question 3. From your experience, do you believe that there are large amounts of defense-related R.D.T. & E. performed by industry that is not paid for by the U.S. Government?

Answer. I do believe that there are large amounts of defense-related research and development performed by industry. It is not paid for directly out of defense budgets.

Question 4. Isn't it true that most DOD R.D.T. & E. expenditures are directed at specific major weapons systems to which civilian sector R. & D. does not contribute?

Answer. Yes.

Question 5. Do you have any classified or unclassified work comparing United States and Soviet military technologies?

Answer. No.

Question 6. Have you had the opportunity to examine what Dr. Foster and his staff have done in comparing United States and Soviet military technologies?

Answer. Yes.

Question 7. Have you had a chance to study the GAO report on military R.D.T.& E. expenditures for the United States and U.S.S.R.? If so, how do you find it?

Answer. Yes. I find it a sensible and persuasive report.

Question 8. There has been a lot of discussion on ruble to dollar conversion ratios. It is my understanding that DOD made an effort to determine the ruble to dollar ratio by pricing out the Soviet's space program instead of using Soviet budgetary numbers. Is this your understanding also? Isn't this a good method of determining the ruble to dollar ratio for advanced technology systems?

Answer. The question seems to confuse outputs with inputs. So does the testimony of the Department of Defense.

Question 9. The Federation of American Scientists had some consideration discussion on the Soviet social and economic system and the inhibitions that this system would place on innovative R. & D. One interpretation of this FAS discussion is the inability of the Soviet scientists and engineers to develop modern military systems. Do you believe that the Foxbat, the SS–9, the Soviet heavylift helicopters, the Hen House and Dog House radars, et ceterea, are copies of U.S. technology and not products of their own thinking?

Answer. I am not capable of answering this question.

Question 10. Do you know of any innovative, imaginative Soviet weapon systems that are not copies of the United States?

Answer. I am certain there are such weapon systems.

Question 11. Don't you imagine that the Soviet R. & D. pursue technological developments independent of the United States?

Answer. Yes.

Question 12. If we accept the work of the DOD and the intelligence community it would appear that the Soviets are making a much larger investment in military-related R.D.T. & E. than the United States. If this situation is correct, do you view it as a serious matter?

Answer. I believe that the allegation is correct. I do not view it as a particularly serious matter for the reasons discussed in my testimony and in particular that of George Rathjens.

Question 13. How long should we continue to allow this imbalance to exist?

Answer. My suspicion is that the imbalance may well go away by itself.

Question 14. The Soviets have long stated their desires to exceed the Western World in all phases of technology. Do you believe that the United States will be more secure if we allow the Soviets to continue their defense-related R.D.T. & E. program some 50 percent larger than our own?

Answer. Same as response to question 13.

Question 15. Many individuals have recommended that we take advantage of the research and development efforts of the NATO countries. Do you think that such activities would be in the best interests of the United States?

Answer. No impression.

Question 16. How can this NATO technology base be transferred to the United States? What licensing systems would you like to see employed?

Answer. No impresison.

Question 17. How would activities of this sort affect the technological base of the United States? Would such a program of adopting the research and development results of NATO R.D.T. & E. affect the technological base of the United States? Would such a program be in the best interests of DOD laboratories, the work of those few universities still interested in the DOD-related activities, and the Federal contract research agencies?

Answer. No impression.

RESPONSE OF GEORGE W. RATHJENS TO ADDITIONAL WRITTEN QUESTIONS POSED BY SENATOR MILLER

Question 1. Have you made an independent study of United States and U.S.S.R. expenditures on R.D.T.&E.?

Answer. I have not on my own. I was a coauthor (with Marvin Goldberger, Richard Nelson and F. M. Scherer) of a report by the Federation of American Scientists relating to the subject.

Question 2. Do you find the DOD's position to be correct, that is, that military-related United States R.D.T. & E. expenditures are declining while military-related Soviet R.D.T. & E. expenditures are increasing?

Answer. Over the last decade there has apparently been some decline, as measured in constant dollars, in the United States, DOD, NASA and AEC funds that might qualify as earmarked for military R. & D. However, this decline has probably been at least partially offset by increased industrial R. & D., an ill-defined part of which ought (as the GAO report makes clear) to be counted as militarily related. Thus, while I believe militarily related U.S. R.D.T. & E. expenditures may have declined somewhat over the last decade (as measured in constant dollars), it would probably be more appropriate to characterize them as having remained roughly constant.

I would agree that militarily related Soviet R.D.T. & E. expenditures probably have been increasing.

Question 3. From your experience, do you believe that there are large amounts of defense-related R.D.T. & E. performed by industry that is not paid for by the U.S. Government?

Answer. How much should be counted is unclear and is partly a matter of definition. My judgment is that it amounts to several hundred million dollars per year (a substantial fraction of which is in the computer industry).

Question 4. Isn't it true that most DOD, R.D.T. & E. expenditures are directed at specific major weapons systems to which civilian sector R. & D. does not contribute?

Answer. Most DOD R.D.T. & E. expenditures are directed toward the development end of the R. & D. cycle, and that is also true of most industrial R. & D.; and there is not much spinoff from either sector to the other at that end of the cycle. The more basic work, whether financed by industry, DOD, other Government agencies, or foundations may be important to both sectors.

Question 5. Do you have any classified or unclassified work comparing United States and Soviet military technologies?

Answer. I am not personally involved in any such studies at this time. I have done, and supervised, such work in the past. I have some unclassified studies in my possession and occasionally have access to classified studies.

Question 6. Have you had the opportunity to examine what Dr. Foster and his staff have done in comparing United States and Soviet military technologies?

Answer. To some extent.

Question 7. Have you had a chance to study the GAO report on military R.D.T. & E. expenditures for the United States and U.S.S.R.? If so, how do you find it?

Answer. I have studied the report but not the backup documents identified on pages 12 and 13 of the report. I believe that the report presents a balanced and valuable perspective on the question of comparative R. & D. expenditures. In particular, I find its reservations (p. 12) regarding the unefulness of the DOD methodology persuasive.

Question 8. There has been a lot of discussion on ruble to dollar conversion ratios. It is my understanding that the DOD made an effort to determine the ruble to dollar ratio by pricing out the Soviet's space program instead of using Soviet budgetary numbers. Is this your understanding also? Isn't this a good method of determining the ruble to dollar ratio for advanced technology systems?

Answer. My understanding is that comparison of space programs is one of the techniques used by DOD to establish a ruble-dollar conversion ratio or at least to corroborate other estimates. The method does strike me as a useful approach, but one that ought to be used with great reservations. In particular, its validity would depend on comparing programs that had comparable objectives and which required similar advances. We might attempt to estimate the cost of a Soviet system on the assumption that it had a reliability of 99.9 percent whereas as in fact Soviet objective might have been only 99 percent, or we might over or underestimate the extent to which a given Soviet system could use components developed for other purposes. Such errors could result in serious distortions in the ruble-dollar conversion ratios. My impression is that the relatively high ratios often used—(2 to 3)—for the aerospace sectors of the two economies may be misleading in that they are based on comparing efforts to produce two prices of equipment that are assumed comparable but which in fact are not, the American product being of greater sophistication or more reliable. Thus, my guess is that if the Russians had tried to produce on Apollo type space program, and in the same time frame that we did, and without benefit of U.S. experience, it would have cost them more than half as many rubles as it did us dollars (if they could have done it at all).

Question 9. The Federation of American Scientists had some considerable discussion on the Soviet social and economic system and the inhibitions that this system would place on innovative R. & D. One interpretation of this FAS discussion is the inability of the Soviet scientists and engineers to develop modern military systems. Do you believe that the Foxbat, the SS–9, the Soviet heavy-lift helicopters, the Hen House and Dog House radars, and so forth, are copies of U.S. technology and not products of their own thinking?

Answer. I would not characterize any of these as being copies of U.S. systems. On the other hand, some at least have drawn on important concepts developed in the United States, or in any case followed U.S. demonstrations of feasibilty. This would be true for example of the two radars mentioned.

Question 10. Do you know of any innovative, imaginative Soviet weapon systems that are not copies of the United States?

Answer. Yes.

Question 11. Don't you imagine that the Soviet R. & D. pursue technological developments independent of the United States?

Answer. Of course it does.

Question 12. If we accept the work of the DOD and the intelligence community it would appear that the Soviets are making a much larger investment in military-related R.D.T. & E. than the United States. If this situation is correct, do you view it as a serious matter?

Answer. Yes; but see response to question 13.

Question 13. How long should we continue to allow this imbalance to exist?

Answer. That depends much more on their output than on their inputs. I would relate our R. & D. programs much more to what our needs are, which are of course dependent on what the Soviets produce, and on our objectives, than to estimates of their expenditures.

Question 14. The Soviets have long stated their desires to exceed the Western World in all phases of technology. Do you believe that the United States will be more secure if we allow the Soviets to continue their defense-related R.D.T. & E. program some 50 percent larger than our own?

Answer. I believe our security in a narrow military sense, at least in terms of our ability to respond to plausible Soviet or other threats during the next few years, will probably diminish. I doubt that significant increases in U.S. military R. & D. expenditures would remedy this, and the costs to us in terms of forgone opportunities in other areas and in adverse domestic political effects would more than offset whatever gain there might be. Inducing the Soviets to reduce their expenditures on militarily related R. & D. would seem a more attractive approach (although it is not one about which I am greatly optimistic either in terms of realization or effect.)

Question 15. Many individuals have recommended that we take advantage of the research and development efforts of the NATO countries. Do you think that such activities would be in the best interests of the United States?

Answer. Yes.

Question 16. How can this NATO technology base be transferred to the United States? What licensing systems would you like to see employed?

Answer. I am not persuaded that the technological base need be transferred. Much of the work can be done abroad with the United States adopting or adapting those developments (or in some cases simply buying equipment) that meet our needs. I have no comment on licensing arrangements beyond pointing out that if we are going to continue to maintain substantial forces abroad we ought to be able to drive some pretty hard bargains.

Question 17. How would activities of this sort affect the technological base of the United States? Would such a program of adopting the research and development results of NATO R.D.T. & E. affect the technological base of the United States? Would such a program be in the best interests of DOD laboratories, the work of those few universities still interested in the DOD-related activities, and the Federal contract research agencies?

Answer. Further moves in this direction might result in some narrowing of our technological base as we concentrated our efforts more in those areas where we are most efficient while our allies worked in others where they would have a competitive advantage. Provided the distribution of effort was based on optimal use of resources the net result could be greater overall efficiency as well as interdependence. I would have some reservations because of my fear that allocation of effort would in fact be too much influenced by political and prestige considerations. Provided competitive forces and considerations of efficiency played a major role in allocation of tasks, I would think that the effects on the laboratories et cetera would be favorable. Getting the Europeans more involved in the kinds of studies done by the FCRC's could have two advantages: providing a greater range of analyses; and in getting them to think more seriously about defense problems.

THE ECONOMICS OF NATIONAL PRIORITIES

WEDNESDAY, AUGUST 11, 1971

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON PRIORITIES AND
ECONOMY IN GOVERNMENT OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:05 a.m., in room 1202, New Senate Office Building, Hon. William Proxmire (chairman of the subcommittee) presiding.

Also present: John R. Stark, executive director; Loughlin F. McHugh, senior economist; Richard F. Kaufman, economist; Lucy A. Falcone, research economist; Walter B. Laessig and Leslie J. Bander, economists for the minority.

OPENING STATEMENT OF CHAIRMAN PROXMIRE

Chairman PROXMIRE. The subcommittee will come to order.

In fiscal year 1971 over $16.3 billion of the conventional forces portion of our defense budget was allocated for Asian contingencies. The conventional forces portion of the budget amounted to $44 billion in that year. This figure, of course, does not include the amounts spent on strategic forces. Neither does it include the costs of the war in Vietnam.

The $16 billion conventional forces figure for Asia was second only to the $19 billion spent in Europe. Obviously, if Vietnam costs were added to the other military expenditures in Asia, those outlays would represent the largest portion by far in the conventional forces portion of the defense budget.

Recently serious questions have been raised about our official views of the People's Republic of China. It is clear that much of our foreign and military policies in East Asia and the budgetary expenditures associated with them are a response to the threat we perceive from the People's Republic of China.

What is the nature of that threat? Are we spending too much or too little to meet it?

These issues stand out vividly in light of President Nixon's recent announcement that he intends to make an official visit to Peking next year.

These matters and others are the subject of today's discussion with three of the country's foremost experts on China and Asian affairs.

Jerome Cohen is professor of law at Harvard University, a graduate of Yale Law School and Yale College. He is a specialist in East Asian legal studies, particularly China. He has published a number of books

in this field and is about to complete a study of China and international law.

John Fairbank received his Ph. D. from Oxford. He has been on the faculty of the Department of History at Harvard since 1936 where he is presently Higginson professor of history. He has been history director of the East Asian Research Center since 1959.

Mr. Fairbank was with the Coordinator of Information and the OSS in Washington in 1941 and 1942. He was Special Assistant to the American Ambassador in Chungking, China, in 1942 and 1943; with the Office of War Information, Far Eastern Operations, Washington, D.C., in 1944 and 1945; Director of the U.S. Information Service in China in 1945 and 1946, and he has been a member of the National Commission, United States-China Relations since 1966.

Mr. Fairbank is the author of several books, including: "The United States and China," "Modern China," "A Bibliographical Guide to Chinese Works, 1898–1937," "A Documentary History of Chinese Communism," "Trade and Diplomacy on the China Coast," "China's Response to the West," "East Asia: The Great Tradition," and "East Asia: The Modern Transformation."

Allen S. Whiting received his Ph. D. from Columbia. He was former Director of Research and Analysis, Far East, Department of State, from 1962 to 1966. He was Deputy Counsel General, Hong Kong, from 1966 to 1968. He has taught at Northwestern University, Michigan State, and Columbia. He was with Rand Corp. from 1957 to 1961. He is the author of "China Crosses the Yalu," "Soviet Policies in China, 1917 to 1924," coauthor of "Dynamics of International Relations," and other works.

Mr. Whiting is currently a professor of political science and an associate with the Center for Chinese Studies at the University of Michigan.

Gentlemen, we are honored to have you present.

Mr. Cohen, will you proceed.

I might say I would appreciate it if you would hold your remarks down to 10 or 15 minutes and then your statement will be printed in full in the record.

STATEMENT OF JEROME A. COHEN, PROFESSOR OF LAW, HARVARD UNIVERSITY

Mr. Cohen. Thank you, Mr. Chairman, I am very pleased to have this opportunity.

I do have a prepared statement that I would like to submit for the record, but I will be relatively brief in my informal presentation.

My presentation addresses itself to the two principal questions that your committee is seeking to investigate. One is, How do we assess the threat of China? And the second is, How do we respond to that threat?

I would say with respect to the first question that for over 20 years our assessment of China has reflected misperceptions, myth and mistakes. Briefly, one can tick off what almost constitutes a litany of mistakes and misrepresentations. At the very outset, as a number of people have pointed out, the U.S. leaders sought to depict what was going on in the Chinese revolution and the Communist takeover in

1949 as the installation of a Soviet satellite in China. At one point Dean Rusk called China a "Slavic Manchukuo."

Secondly, when North Korea invaded South Korea in June 1950, the United States perceived this as being largely a Chinese-sponsored invasion and used this as the pretext for intervening our fleet and eventually posting our military forces between Taiwan, which had been recognized by us as part of China until then, and mainland China. We didn't realize, or apparently we didn't care, that this would be seen not only by people elsewhere in Asia, but in China specifically, as intervention and aggression against China's territorial integrity, even though we previously had rejected that course of action for precisely this reason.

We eventually made an even more profound mistake, or perhaps one of equal magnitude, when we decided to send troops across the 38th parallel toward China's border with North Korea on the Yalu River, despite the most repeated Chinese warnings that China would deem itself threatened if we sought to bring down the North Korean regime. Again, what we underestimated was China's determination to defend the Chinese revolution, which was then only a year old, having been established in 1949. We didn't apparently take into account that the Chinese remembered western intervention against the Bolshevik Revolution in 1918, that the Chinese remembered that Japan's invasion of China started with annexation of Taiwan in 1895 and proceeded in 1910 with annexation of Korea, and then proceeded north into Manchuria. To the Chinese, as Professor Whiting's able study of 1960 shows, the United States seemed to be repeating the Japanese pattern of infringing on China's security and territorial integrity.

Well, we ended the Korean war, and China adopted a policy of peaceful existence from 1954 to mid-1957. And at that time we continued to justify our rebuff of China's repeated initiatives to have peaceful coexistence, not merely with the United States but with the world, by involving the myth of aggressive China. After all, the United Nations, which had been a party to the Korean conflict, had condemned China as the aggressor. To the Chinese, however, this looked rather odd since China's troops had not taken part in North Korea's attack on South Korea and since they only entered the war, as I indicated earlier, after the United States advanced toward the Chinese border.

Well, the period of peaceful coexistence didn't really win any great gains for Peking. And in 1957 she shifted to a more militant policy. In part, as I think Professor Whiting's prepared statement today will also support, that policy reflected Peking's awareness of covert U.S. sponsorship of many hostile acts toward China. Peking's new emphasis on liberating Taiwan by force in 1958 during the offshore islands crisis, which should have been perceived as renewal of the civil war, was transformed by us into an international problem because we said Taiwan was no longer part of China. We ignored the fact that it was U.S. sponsorship of Nationalist China's initiatives in the offshore island area that brought out Peking's renewed hostility.

We also saw that when Peking suppressed the Khamba tribesmen's rebellion in Tibet in 1958–1959 we sought to portray that as an international problem, even though in 1950 there had been international acceptance of China's reincorporation of Tibet, which had earlier

been part of China; moreover, we were covertly sponsoring and supporting that revolt against Chinese rule.

Overt hostilities in the Sino-Indian border in 1962 also have been part of the "aggressive China" indictment that we heard so much about in the late 1950's and early 1960's, as Professor Whiting's prepared statement again, I think, supports. The Sino-Indian problem derived in part from China's concern about covert and hostile activities against China in the area of Tibet and elsewhere along its Indan border.

So, by the early 1960's this country was haunted by a specter—and it was a specter—of an aggressive, militant China. And it was this specter that made possible the mobilization of public support in this country for our tragic Vietnam intervention.

Today, in self-justification, some of the former high officials of the Kennedy and Johnson administrations argue that although in 1971 we all recognized that China is no longer expansionist in the conventional border-crossing sense, it was reasonable in 1965 to see China as being aggressive, and therefore it was reasonable to challenge China's so-called indirect aggression in Vietnam by sending American combat troops there.

In other words, in 1965 they saw the existence of an Asian Communist conspiracy whose capital was Peking, China, but today, of course, they say it has disappeared.

This reminds me in a curious way of the story about the lad, who at 18 thought his parents were quite ignorant about the affairs of the world and was amazed by the time he reached 21 at how much his parents had learned in 3 years. I think the original image of China was inaccurate; but it would be equally inaccurate, however, if we were to see China as wholly benign today. Yet, in neither case can we justify the indictment that China is uniquely aggressive and therefore justify the tremendous expenditure of resources by the United States, not merely in money and other resources, but also in people, in order to combat and contain this "aggression."

I think "the establishment" is now coming to realize that the image of "aggressive China" has been grossly exaggerated, a caricature of the Chinese image, and that it has been a tremendously expensive misperception—one that has cost us very dearly. Even if one turns to so-called indirect aggression and Chinese subversion, one finds that the Chinese have allocated relatively insignificant amounts to helping wars of national liberation abroad, and that their propaganda, weapons, training, and other forms of support for these wars of national liberation have not been very successful. We shouldn't exaggerate the danger that any healthy society in Asia that is led by genuinely nationalistic leaders with some popularity would have from this kind of a threat from China.

Finally, with respect to nuclear weapons, I think it is fair to say that Chou En-lai was not grossly exaggerating the other day in his interview with Mr. Reston when he described China's nuclear attainments as merely in the stage of experimentation. Not in our lifetimes will we find the Chinese nuclear threat comparable to the Soviet or the American nuclear threat to other powers. Even with China's predominantly rural nature, its urban shelter program, and its perhaps greater ability than other powers to absorb nuclear attacks,

it would be the height of irrationality for Peking to resort to nuclear weapons. Indeed Peking has repeated its request that other powers join it in a no-first-use pledge regarding nuclear weapons. I would urge that we very seriously consider a response of a favorable nature with respect to talking about under what conditions could we indeed make a no-first-use pledge.

I think we have to understand that Peking wants nuclear weapons because, although it talks about itself as a middle power that wants to group itself with the junior powers in the world against the superpower conspiracy of the United States and the Soviet Union, Peking really has aspirations for equality with the United States and the Soviet Union. One has to understad a great deal about the Chinese past—and I am sure Professor Fairbank will mention this emphasis upon equality, upon reciprocity, upon being treated not as some junior member of the world community, but as a leading power—to understand why Chinese leaders want to have equality and therefore want nuclear weapons, which represent the ticket to equality with the superpowers.

Before leaving the subject of our assessment of China and our mistakes in the past, I think it is important to question whether we are now currently laboring under another misapprehension about the nature of China's policies and China's determination to achieve equality in the world. President Nixon has repeatedly announced the belief that we can normalize relations with the People's Republic of China while still maintaining our friendly relations with and our defense commitment to, the Republic of China on Taiwan.

Now, perhaps this is simply something that has to be said at the moment in order to quiet the obviously unquiet rightwing elements in both political parties. Perhaps it is, of course, possible that the President's proposed trip to China is simply a domestic political maneuver to distract us from our international domestic problems. Yet my hope is that the President is profoundly serious about believing that he may succeed in normalizing relations with China. But if he is, I think we have to realize that the Chinese are not kidding when they say we can't have our cake and eat it too, that we cannot recognize two governments as being the legitimate Government of China and that we will have to break diplomatic relations eventually with the Nationalist Government on Taiwan if we hope to normalize relations, as I think we have to do for our security position, with the People's Republic on the mainland. Otherwise the President's journey for peace, I fear, will in Shakespeare's famous phrase, "keep the word of promise to our ear and break it to our hope."

Finally, Mr. Chairman, I want to talk briefly about responding to this threat.

I think the threat is exaggerated. I say the threat is based on misperception and perhaps deception of the American public to a certain extent, and exaggerated fear. Now, how should we respond? Obviously if we are really going to write a new chapter in Sino-American relations we are going to have to normalize relations. We are also going to have to recognize that there is a legitimate basis for Peking's claim that Taiwan is Chinese territory and to go back to our pre-June 27, 1950, position that it is part of China's territory. And we are going to have to implement the vague prescriptions of the Nixon doctrine in

a way that will respond to both Peking's and Washington's perceptions of their legitimate security interests.

I am not a specialist on military affairs, and I won't burden the committee with my remarks on this subject. But I am a specialist on international law and I would like to conclude my testimony with a few remarks on its relation to our political-military problems with China.

By adopting a new attitude toward international law, the United States could help significantly to reduce Sino-American tensions.

I believe our present attitude can be summarized as one scholar, Earl Ravenal, did recently, by saying that this Nation behaves according to the principle that we have a privileged purpose that we must impress upon the rest of the world. I think that has been obvious in our relations with China. Let me simply illustrate it by two recent examples.

Last week in the New York Times it was reported that the United States, in order to facilitate the President's trip to China, would discontinue flights over China by our manned SR–71 spy planes and our unmanned reconnaissance drones. We would continue our satellite reconnaissance because that did not take place in China's airspace but above it, and therefore it was not provocative. Now, certain administration sources have denied that we have ever flown SR–71's over China, saying that we have overflown North Korea with them. But they concede, of course, that we have flown our unmanned drones into China on reconnaissance missions.

Now, on the face of things this looks like a very enlightened thing to have done. We suspended these overflights in order to eliminate the possibility of another U–2 fiasco such as the one that in 1960 canceled the Eisenhower-Khrushchev conference. But what virtually no one seems to recognize is that this very announcement implicitly concedes that in former years the United States has been violating China's territorial air space. This is contrary to the accepted rules of international law.

This is no news to Peking, of course. It has issued almost 500 protests against this sort of behavior and it has shot down a number of our drones. One can imagine the outrage that American leaders and American public opinion would feel if Chinese military aircraft were repeatedly violating our airspace. But somehow it seems right to Americans that the United States should systematically be violating the airspace of China, and not merely China, but also North Vietnam, North Korea, Cuba, and other Communist states. We want them to abide by the rules of the international game that say invading airspace is out of line. And yet we expect them to tolerate our failure to observe the same rules.

Similarly, we castigate China for refusing to observe the principles of nonintervention in the affairs of other states, and we have sought to rationalize our intervention in Vietnam on the ground that we were combating this kind of Chinese subversion, this "indirect aggression" I mentioned earlier. And yet we tend to ignore the evidence that enterprising journalists and scholars uncover from time to time of the extent to which our own Government has engaged in hostile activities of a covert nature—not merely propaganda—against the People's

Republic, as in Tibet, and in sponsoring Nationalist raids against the Chinese.

Last week the Washington Post reported that the United States has just ordered the CIA to stop sending into China Lao tribesmen whom we have been using to infiltrate into China for a variety of purposes. Previously, high administration officials not only in public but in private have denied that these raids have been continuing since the Nixon administration took office. They conceded they were going on earlier. It has become very clear now that it is not only Peking and Moscow that have been fostering subversion in behalf of a universalistic ideology.

Our ideology is different from theirs. I prefer it. But the question is, does that really justify us and not them in covert departure from the rules? Even if, as it appears, the Chinese Communists regard international law as an instrument of policy to be adopted and used when desirable, but to be ignored when necessary, we shouldn't overlook the extent to which this attitude of theirs reflects their perception of how we and others play the game.

I could go on at length, but I will simply tick off other instances in which they see us as having manipulated international law to our interests.

I have mentioned our overnight change on the legal status of Taiwan. One can also go back to the U.N. uniting for peace resolution in 1950, where we changed the role of the General Assembly far beyond what was contemplated at the time the United Nations Charter was adopted. Of course, the Chinese regard the label of aggression placed on them during the Korean War as being inappropriate. We held up a truce in Korea for well over a year because of a new interpretation we grafted upon the 1949 Geneva Convention with respect to prisoners of war. We announced in 1954 that we were wrong in 1950 in saying that there was no veto in the Security Council on the question of China's representation.

I was glad, by the way, to see that Secretary Rogers appears to be retreating from that position and saying that at least the United States will not assert a veto on China's representation in the Security Council.

In addition to this manipulation of the rules, we seem to be continuing, as I have indicated, covert violations. My own college classmate, who has been in a Chinese prison for almost 20 years, was engaged in CIA air drop operations against China, which we have denied.

We have also used meteorological balloons over China as an excuse for getting reconnaissance information. And we have used foreign fishermen and other means of getting data inside Chinese territorial waters.

The Chinese also haven't ignored how we play the game in international law elsewhere in the world, not only in Vietnam but also, for example, in the Bay of Pigs and with respect to the overthrow of the Arbenz regime in Guatemala.

The Dominican Republic in 1965 is a beautiful case. The State Department legal adviser, Mr. Meeker, then said that, while it is true that one could argue from a mechanical, legalistic point of view that we may not have complied with all the rules of international law,

when properly viewed one could see our action in the Dominican Republic as another chapter in the creative development of international law. Well, that is fine for domestic public opinion, but if you are looking at it from the point of view of Peking and other capitals, it doesn't look very persuasive.

So I am hoping, Mr. Chairman, that our recent cessation of hostile ground penetration of China and our recent cessation of the overflights into China's airspace, represent not merely some tactical decision to facilitate and assure the President's trip to China, but represent more than that—a new policy of dealing with the Chinese, one that is based upon respect for China's territorial integrity, respect for the other forms of international law, and respect for the principle of reciprocity. I think if we adopt such a policy and combine it with a more realistic and less fearsome assessment of China's capabilities and intentions, we will be making a substantial contribution to the relaxation of tensions in China, to our own security, and to the conservation of our own human and material resources.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you very much, Mr. Cohen.

(The prepared statement of Mr. Cohen follows:)

PREPARED STATEMENT OF JEROME A. COHEN

HIGHLIGHTS OF THE PREPARED STATEMENT

1. President Nixon's professed belief that the United States will be able to establish diplomatic relations with the People's Republic of China while retaining diplomatic relations with the Republic of China on Taiwan, may well represent the most recent example of persistent American failure to understand the outlook, experience, and determination of China's Communist leaders. For 22 years, Peking has consistently insisted that it will never establish diplomatic relations with any government that maintains diplomatic relations with the Chiang Kai-shek regime.

2. American policymakers should adopt a more realistic and less fearful assessment of China's capabilities and intentions. Mao's China has not been expansionist in the conventional border-crossing sense, its success in subverting other countries has been limited, and its nuclear weapons are unlikely to pose a serious threat.

3. The United States has frequently violated international law in its relations with China. It will be important to determine whether the recent cancellation of illegal overflights and ground penetrations of China represents merely a temporary gesture to facilitate President Nixon's trip to Peking or a new American policy of dealing with China on the basis of reciprocity and respect for territorial integrity and other rules of international law.

TEXT OF THE PREPARED STATEMENT

Mr. Chairman and members of the subcommittee, I am happy to have this opportunity to appear before you to discuss the importance of China to the allocation of our national resources, especially those relating to defense.

The topic is vast, and our time is short. I understand that the subcommittee will hear from other witnesses and will include in the record the statements of specialists who cannot personally appear here. I will therefore concentrate my initial presentation upon certain aspects of the two principal questions that confront our China policy: How should we assess the People's Republic of China? How should we respond to it?

I. Assessing China

For more than 20 years our assessment of the new Chinese Government has been characterized by misperceptions or self-deception. American policymakers have persistently misunderstood, or at least misinterpreted to the American public, the nature of events in China. In 1949–50 they sought to deny that the

Chinese Communist revolution was an authentic Chinese phenomenon. Following the line of Chiang Kai-shek's repudiated Kuomintang, our leaders portrayed the People's Republic of China (PRC) as a Soviet satellite—a "Slavic Manchukuo," as Assistant Secretary of State Dean Rusk put it at the time.

Shortly afterward, they held the Chinese responsible for North Korea's invasion of South Korea, despite the fact that Peking's forces were not initially involved, and invoked the Korean conflict as a justification for American intervention in the Taiwan Straits. For the 5 previous years, the Truman administration had recognized that Taiwan was Chinese territory, and only months before the Korean conflict began, it had publicly rejected sending the 7th Fleet and our military to defend Taiwan, on the ground that this would be intervention in a civil war. Immediately following the outbreak of hostilities in Korea, however, President Truman announced that Taiwan was not Chinese territory after all, and our spokesmen began to belabor Peking for refusing to agree to abandon the use of force in what had overnight, according to our reinterpretation of the facts, become an international conflict.

The administration soon compounded this profound blunder with another of equal magnitude. It ignored repeated and formal Chinese warnings that if American troops crossed the 38th parallel in an effort to bring down the North Korean regime, China would be forced to intervene. Our leaders believed that the People's Republic was bluffing and would not dare to risk the slaughter that General MacArthur predicted would await its army.

They badly misjudged new China's military and political strength, as well as its distrust and hostility toward the United States. They failed to understand that, to the Chinese Communists, who had yet to consolidae their power at home, who were cognizant of Western intervention in Soviet Russia in 1918, and who had just experienced American intervention in Taiwan, the United States, by advancing toward the Chinese border, appeared to be repeating Japan's design to conquer China via Taiwan, Korea, and then Manchuria. Thus, the American advance constituted a grave threat to China's security and created a sense of immediate danger that impelled China to send "volunteers" to meet what was perceived to be aggression by the United States.[1]

After an armistice was concluded in Korea, Peking, despite its continuing and substantial grievances against the United States, made persistent efforts to apply to Sino-American relations the Bandung spirit of "peaceful coexistence" that generally marked its foreign policy in the mid-1950's. President Eisenhower and Secretary Dulles were equally persistent in rebuffing virtually all of these initiatives, and rationalized these rebuffs to the American people by continuing to depict the PRC as evil incarnate, an aggressive devil that had been so declared by the United Nations General Assembly for its intervention against U.N. forces in Korea.

Peking's policy of "peaceful coexistence" failed to achieve either a detente with the United States or a weakening of the American military position in Asia, which, if anything, seemed to be expanding. When in the late 1950's Peking began to pursue a more militant anti-imperialist policy, it became correspondingly easier for Washington to foster the aggressor image. In 1958 Peking launched a campaign calling for the completion of the Chinese civil war through "liberation" not only of the Nationalist-occupied offshore islands of Quemoy and Matsu but also of Taiwan. Although both the Communists and the Nationalists understandably regard Taiwan as Chinese territory, Peking's threat to take the island by force was labeled "aggression." In 1959 Peking suppressed a revolt by Khamba tribesmen in Tibet, which had been reincorporated into China in 1950 with the acquiescence of the world community. Although Tibet is generally regarded as Chinese territory and although the United States appears to have played a covert role in stimulating revolt there, Peking's suppression of that revolt was included in the indictment against it.

When in 1962 serious fighting broke out on the Sino-Indian border, another count was added to the indictment, for Washington promptly adopted the view that Peking had been the aggressor. It has taken almost a decade for scholarship to provide a more accurate evaluation of the complex origins of the brief Sino-Indian conflict now admirably analyzed in Neville Maxwell's recent book,[2]

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[1] See Tang Tsou, "America's Failure in China, 1941–1950" (1963), ch. 13; and Allen S. Whiting, "China Crosses the Yalu" (1960), ch. 8.

[2] Neville Maxwell, "India's China War" (1970).

just as it took a decade before Professor Whiting's excellent study gave us a balanced understanding of China's decision to enter the Korean conflict.[3]

In the early 1960's, however, the spectre of aggressive China haunted our land. It was this spectre that made possible the mobilization of public support for our tragic Vietnam intervention, and the highest officials of the Kennedy and Johnson administrations frequently invoked it. Today, in self-justification, some of these former officials argue that, although in 1971 China is not expansionist in the conventional border-crossing sense, in 1965 it was, and that it was therefore reasonable to commit U.S. combat troops to Vietnam in 1965 in order to contain the "Asian Communist conspiracy whose capital is Peking, China."

This reminds me in a curious way of the story—attributed to Mark Twain—about the lad who at 18 thought his parents were ignorant, but who at 21 was amazed at how much they had learned in 3 years. Other former officials are now beginning to concede that they exaggerated the danger of Chinese expansionism in the mid-1960's, just as they underestimated the tenacity with which the Vietnamese Communists were prepared to fight for national independence.

The myth of aggressive China has cost us dearly, but at last "the establishment" is coming to realize what some observers have long maintained—that China is very unlikely to engage in conventional military expansionism for the foreseeable future. Moreover, even Peking's resort to indirect aggression through encouragement of wars of national liberation is now increasingly perceived to be far more limited than its rhetoric and not very successful. China is a vast, poor, underdeveloped country; it has enormous internal problems that will absorb the bulk of its energies for generations.

Of course, China's Communist leaders will continue to preach their own version of the Marxist-Leninist challenge to the bourgeois state system, and, within the limits of China's capabilities, seek to translate this revolutionary ideology into action. But the record of more than two decades indicates that they are unlikely to allocate a significant proportion of their scarce resources to subversion abroad and that the propaganda, training, supplies, weapons, funds, and other means of support with which they provide foreign insurgents are unlikely to undermine goverments whose leaders earn the confidence of their peoples as reasonably effective exponents of national regeneration.

If our leaders have acquired a more sophisticated appreciation of China's capabilities and intentions regarding conventional and subversive warfare, their assessment of China's achievements in developing nuclear weapons is less clear. Dean Rusk's nightmare of "a billion Chinese armed with nuclear weapon's may linger on in Washington as we move into a period when the People's Republic begins to deploy ICBM's. Yet we would be foolish to retain exaggerated fears of China's nuclear prowess. In our lifetimes China cannot hope to approach the nuclear strength of either the United States or the Soviet Union, and even when one takes into account China's predominantly rural character, its dispersed industries and its urban air raid shelter program, it would be the height of irrationality for Peking to use nuclear weapons. There is little evidence that it plans to, and a good deal of evidence that it does not.

Although it purportedly is content to be just a middle power that is rallying other middle and smaller powers against the nuclear giants, Maoist China has aspirations for great power status and, like Gaullist France, has regarded nuclear weapons as the price of admission to the club. Because of China's traditional greatness, its "century of humiliation" at the hands of imperialism prior to World War II; and its present rivalry with both the United States and the Soviet Union, the proud, nationalistic leaders of the People's Republic have felt a need to attain political and psychological equality with the superpowers. Nuclear weapons are expected to speed them toward that goal.

Before leaving the subject of our assessment of China, I think it important to call attention to what may be the current administration's most important illusion about China—its professed belief that the United States will be able to establish diplomatic relations with the People's Republic while retaining its diplomatic relations with the Republic of China on Taiwan. Early this year, in his second state of the world message, President Nixon reaffirmed our defense commitment to the Chiang Kai-shek regime, foreshadowed our decision to pursue a two-China policy at the United Nations and stated that our "honorable and peaceful association" with Taipei need not constitute an obstacle to normalization of relations with Peking. Subsequent to the dramatic announcement of his

[3] See footnote 1.

plan to visit China in order to seek normalization, the President, according to the Nationalist Chinese Ambassador in Washington, reassured Generalissimo Chiang that the United States intended "to honor its defense treaty commitments to the Republic of China and to maintain the continuing friendship with her."

If the President persists in this position, his "journey for peace" will, in Shakespeare's famous phrase, "keep the world of promise to our ear, and break it to our hope." As I have explained in my testimony before that Senate Committee on Foreign Relations on June 25, and in a forthcoming article in "Foreign Affairs," it is very unlikely that Peking will agree to establish diplomatic relations unless, at a minimum, the U.S. severs diplomatic relations with Taipei and withdraws recognition from the government there. Perhaps the President understands this and is engaging in either a diplomatic maneuver that will eventually lead to normalization on terms Peking will accept or a domestic political maneuver that will temporarily distract us from his difficulties in coping with our other international and internal problems. But his optimism may well represent the most recent example of American failure to understand contemporary China's outlook, experience, and determination to attain the national unification and sovereign equality that have so long eluded modern Chinese governments.

II. Responding to China

If, in the 1970's, we are really going to write a new chapter in Sino-American relations, we must succeed in establishing diplomatic relations with Peking. This may require us not only to recognize it as the only legitimate Government of China but also to acknowledge, implicitly if not explicitly, that Taiwan is Chinese territory and that the United States, at some point if not immediately, will cease its intervention in the Chinese civil war. According to Premier Chou En-lai's recent interview with American graduate students, China may also insist, as a prerequisite to normalization, that all American military forces and installations be withdrawn from both Indochina and South Korea and that it receive reassurances against the revival of Japanese militarism that it sees taking place with Washington's encouragement.

Indeed, Peking appears to desire the eventual withdrawal of the entire American military presence in Asia. Although the Nixon doctrine contemplates the reduction of American forces in Asia, obviously Washington and Peking can be expected to differ about the extent and timing of the reduction, the extent to which our commitments in Asia should commensurately be scaled down, and the extent to which our continuing commitments can be made credible through enhanced support for the military forces of Asian allies, greater strategic mobility of American forces stationed outside of Asia, and the threat of nuclear weapons. Plainly enough, how to implement the vague prescriptions of the Nixon doctrine in a way that will respond to both Peking's and Washington's perceptions of their legitimate security interests will be one of the major challenges of the decade.

I am not a specialist in military affairs and will not burden the subcommittee with my views on our security posture in Asia. I do, however, have some familiarity with international law and would like to conclude my testimony with a few remarks on its relation to our politico-military problems with China, for by adopting a new attitude toward international law the United States could help to reduce Sino-American tensions.

Our present attitude toward international law and China reflects our overall foreign policy, which, as Earl C. Ravenal put it, is based on "the principle that this Nation has a privileged purpose that it must impress on the rest of the world." [4]

Let me illustrate what I mean by reference to a recent New York Times report that, in order to avoid any incident that might interfere with President Nixon's forthcoming visit to Peking, the administration has suspended flights over China by manned SR–71 spy planes and unmaned reconnaissance drones. American reconnaissance satellites will continue their missions over China, it was reported, because such missions are considered relatively unprovocative in view of the fact that they take place well above China's airspace.[5] Certain administration sources, while admitting that the SR–71 has been used to overfly North Korea, have

[4] Earl C. Ravenal, "The Political-Military Gap," Foreign Policy, No. 3 (summer 1971), p. 40.

[5] William Beecher, "U.S. Spy Flights Over China Ended To Avoid Incident," New York Times, July 29, 1971, p. 1.

denied its use over China, but even they concede that the drones have until recently been entering China's airspace.[6]

On the face of things, the suspension of whatever reconnaissance flights have been taking place in China's arispace seems like a statemanlike act that will eliminate possibility of repeating the 1960 U–2 fiasco that canceled the Eisenhower-Khrushchev summit conference. What virtually no one seems to recognize is that announcement of the suspension of flights implicitly confirms that the United States has for years been systematically violating Chinese airspace contrary to accepted rules of international law. This is no news to Peking, of course. Indeed, it has issued almost 500 protests against such infractions, and it has shot down a number of drones.

One can imagine the outrage of American officials and public opinion if Chinese military aircraft were repeatedly violating our airspace. Yet somehow it seems right to Americans that China—and North Vietnam, North Korea, Cuba, and other Communist states—should abide by the rules of the world community while tolerating our failure to do so, unless, of course, for reasons of expediency we choose to honor the rules on occasion.

Similarly, we have castigated China for refusing to observe the principle of nonintervention in the affairs of other states, and we have sought to rationalize our massive application of violence in Indo-China as a response to Peking's "indirect aggression." Yet we tend to ignore the evidence that enterprising journalists and scholars uncover from time to time of the extent to which our own Government has engaged in covert hostilities—not merely propaganda—against the People's Republic, as in Tibet and in sponsoring Nationalist raids against the China coast. Last week the Washington Post reported that the United States has just ordered an end to CIA-sponsored penetrations of China by Lao tribesmen, again in order to sweeten the negotiating environment.[7] Previously, high administration officials—not only in public but also in private—had repeatedly denied that these operations were taking place. It is clear that Peking and Moscow are not alone in fostering subversion in behalf of a universalistic ideology, but our ideology is different from theirs and, to us, seems to justify our covert departures from the rules.

It, as it appears, the Chinese Communists regard international law as an instrument of policy to be used when useful, to be adapted when desirable, and to be ignored when necessary, we should not overlook the extent to which this attitude reflects their perception of how others play the game. The topic deserves detailed treatment; brief reference to a few more of the PRC's legal experiences with the so-called leader of the imperialist camp should leave no doubt about its importance.

I have already mentioned the Truman administration's legal legerdemain in reversing its earlier position that Taiwan is Chinese territory. In the fall of 1950, in an effort to frustrate the consequences of Soviet vetoes in the Security Council, the United States persuaded the General Assembly to adopt the uniting for peace resolution, a significant departure from the original understanding of the United Nations Charter and one which could not square with the PRC's fundamentalist principles of constitutional interpretation.

After the U.N. General Assembly declared the PRC an aggressor in 1951, negotiation of the Korean armistice further confirmed the Chinese in their belief that their opponents regarded international law merely as a tool of foreign policy. Although neither the United States nor the People's Republic had yet adhered to the 1949 Geneva Convention relative to the treatment of prisoners of war, by mid-1952 each had stated that for purposes of the conflict it would, with certain reservations, be bound by provisions of the convention. One of those provisions, article 118, stated that "Prisoners of war shall be released and repatriated without delay after the cessation of active hostilities." This language was in contrast to that used in article 109, which provided for the obligatory return of seriously sick or injured prisoners prior to cessation of hostilities but which went on to state that no such prisoner "may be repatriated against his will during hostilities."

The Chinese argued for what they claimed to be a literal construction of article 118, taking the position that after cessation of hostilities all prisoners were to be returned without exception. Again the Americans adopted a "policy-oriented" interpretation, claiming that humanitarian considerations required

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[6] Michael Getler, "CIA Patrols Into China Said Halted," Washington Post, Aug. 6, 1971, p. 1.
[7] Ibid.

an interpretation of the article that would authorize states to refuse to repatriate a prisoner against his will.

Secretary Dulles proved even more willing than Secretary Acheson to suit international law to American convenience. For example, in 1950, when the United States was confident of its voting strength in the Security Council, it had maintained that the question of Chinese representation was procedural; by 1954, however, the United States' view was that this had become a substantive matter subject to veto.

What must have been especially infuriating to the Chinese was Dulles' sanctimonious posturing about international law. In 1954 for example, the PRC announced that two Americans, John Downey and Richard Fecteau, had been convicted of espionage and sentenced to life imprisonment and 20 years, respectively. According to the opinion of the Supreme People's Court and the evidence subsequently displayed, the Americans had been CIA agents whose plane had been shot down in northeastern China in late 1952 while they had been making contact with Chinese anti-Communists whom they had previously organized and dropped into China. The United States responded to the Chinese announcement with a strong note of protest, and, in the Dulles tradition, an even harsher press release that branded the convictions "a most flagrant violation of justice" based upon "trumped-up charges." These men, it was claimed, were civilian personnel, employed by the Department of the Army in Japan, who had been lost on a flight from Korea to Japan. Their "continued wrongful detention," the release said, "furnishes further proof of the Chinese Communist regime's disregard for accepted practices of international conduct." [8]

The Peking press had a field day attacking factual allegations made in behalf of the two Americans. The Chinese asked some embarrassing questions. If they were employees of the Army, was it not unusual that no records to this effect could be found in Tokyo, where they were supposed to have been based? Why did the Defense Department claim that the men had been "authorized passengers on a routine flight from Seoul to Japan in a plane which was under military contract to the Far East Air Force," while a Far East Air Force spokesman claimed that the men had hitched a ride on a civil air transport and "for some still unexplained reason" it was not disclosed that the men were on board when the plane vanished? And why had the Christian Science Monitor reported that the family of one of the men understood that he was engaged in intelligence work? The United States has never admitted the truth of the PRC's assertions, even though it has been an open secret that Downey and Fecteau were actually CIA agents, and even though such an admission, coupled with an expression of regret, would give them what would seem to be their best chance of immediate release.

China has also rebutted other efforts to deny American penetration of Chinese airspace for intelligence-gathering. In 1956 China joined other Communist states in challenging the United States for having sent military reconnaissance balloons over their territory on the pretext of conducting meteorological research. Chinese scholars pointed out that on the same day that the U.S. Navy declared that the balloons had carried no cameras, the State Department admitted that the balloons had carried cameras but claimed that they had been installed merely to photograph cloud conditions. Although Secretary Dulles stated that it would be "quite accidental" if the cameras picked up anything significant on the ground, Peking maintained that they photographed China's rivers, cities, railroads, harbors, and airfields. Similarly, in 1962 Peking ridiculed arguments that U–2 overflights of mainland China were solely the responsibility of the Chinese Nationalist regime on Taiwan, pointing out that our Government supervised the maintenance and use of these planes and admitted that it obtained intelligence from their activities.

China has been equally sensitive to covert intelligence operations conducted in its coastal waters and on the ground. In 1958, for example, it meted out prison sentences to Japanese fishing boat officials for collecting military data in behalf of American intelligence organizations. And in the early 1950's a number of Fulbright students, businessmen, priests, and other Americans residing in China were convicted of espionage, and, after their return to this country, some of these people admitted their unlawful activity.

[8] For references to these and other illustrations, see Jerome Alan Cohen, "Chinese Attitudes Toward International Law—And Our Own," in J. A. Cohen (ed.), Contemporary Chinese Law (1970), pp. 282, 287–291; and "Comments," Proceedings of the American Society of International Law, 1969, pp. 19–23.

Time precludes discussion of the legal disputes to which the 1955 Sino-American agreement on the repatriation of civilians gave rise; suffice it to say that the Chinese were careful to link their own incomplete performance under the agreement to antecedent acts of bad faith by the Americans. Nor can I do more here than to emphasize that the dexterity with which the United States has applied international law elsewhere in the world—as in rationalizing and prosecuting the war in Vietnam, overthrowing the Arbenz regime in Guatemala, organizing the Bay of Pigs invasion, and intervening in the Dominican Republic in 1965—has done little to moderate the PRC's jaundiced view of international law.

According to the Chinese classics, when the superior man is treated in what he thinks is an unreasonable manner, he is supposed to attribute the difficulty to his own personal failings and to examine his own behavior to find the source of the problem. Although hardly a panacea, were we to adopt such an attitude toward the Chinese, we might take a truly important step in the "journey for peace" of which the President has spoken.

Perhaps the recent cancellation of illegal overflights and ground penetrations of China will amount to more than a temporary gesture designed to facilitate the President's trip. I hope that it signifies the beginning of a new policy of dealing with China on the basis of reciprocity and respect for territorial integrity and other norms of international law. If we adopt such a policy and if we combine with it a more realistic and less fearful assessment of China's capabilities and intentions, we will be making a substantial contribution to the relaxation of tensions in Asia, to our own security and to the conservation of our human and material resources.

Chairman PROXMIRE. Mr. Fairbank, pleased proceed.

STATEMENT OF JOHN K. FAIRBANK, PROFESSOR AND DIRECTOR, EAST ASIAN RESEARCH CENTER, HARVARD UNIVERSITY

Mr. FAIRBANK. Mr. Chairman, I agree with practically everything Mr. Cohen said.

I would like to look back a little bit and begin with the point that President Nixon's visit to Peking is part of a general trend toward greater contact with China. And this kind of contact cannot be handled by purely economic and military means. It will require academic, cultural, educational and informational means on a much larger scale than heretofore. Since these latter means are a great deal cheaper than the usual military and economic means, this trend can benefit the American taxpayer.

Historians look back at past cases to get a longer view of our experience. In Chinese historical studies we try to take account of the psychology of the Chinese people. In the new and as yet neglected field of American-East Asian relations, we study the values and attitudes of the peoples on both sides of the Pacific and how they interact.

The first point revealed by such studies is that the Chinese attitudes and values are very different from those of the Americans. Their war aims and peace aims are both different. We have recently found that the Vietnamese psychology, values, and attitudes are different than we thought, and for this reason our firepower has not had the effect we expected it to have in Vietnam. We have been fighting people who used to be Confucians and Buddhists and are now claiming to be Communists, whereas we ourselves have not been any of those things. How could we expect to understand their psychology?

I suggest that just as man is a creature of habit, so nations are creatures of history. One way to foresee their future conduct is to look at how they have behaved in the past. As we prepare to deal with China, what has been the Chinese record, first of all, as a military power?

Historians have long since exploded the fiction that the Chinese have always been a very pacifist people. Actually, their history has as much warfare in it as that of most countries. However, warfare in China has occurred in a different context and sometimes for different ends than we might expect.

Take the simple question of expansion over surrounding peoples. The Chinese record shows that once the Chinese filled up their own subcontinent that they now occupy, they have seldom gone abroad with expeditionary forces to foreign countries. In fact, China stretches so far from north to south and is so self-sufficient economically that they have been an extremely stay-at-home people, while the Western Europeans have been the expansive peoples.

We can understand this if we look back to China in the year 1000 or in the time of Marco Polo in the 13th century, when the Chinese Empire was a commercial area with a great deal more population and production and a higher technology than medieval Europe.

Probably one reason the Chinese did not expand much beyond their frontiers was their self-sufficiency. In contrast, the European countries on the small peninsulas of northwest Eurasia were relatively poor. For example, they lacked products like cotton and sugar, which they got from the Eastern Mediterranean and warmer countries. The Europeans were have-nots with an incentive to expand abroad and this led them into foreign exploration, maritime trade, colonialism, and taking over the world in the 19th century.

In the last 500 years the Chinese have been concerned primarily with their own affairs, as usual. Unfortunately for them, in the period of the Renaissance and industrial revolutions the Chinese fell behind the Western countries. They are now trying to catch up, but they still have a long way to go, and they are trying to catch up in a rather different way than we would expect. They are not interested in a great foreign trade and have shown no signs of wanting to develop a world-wide naval power. They claim they have plenty to do at home and observers of their recent progress all agree that there is a great deal to be done there.

Let me illustrate China's nonexpansiveness with reference to Southeast Asia. By the first century A.D., the Chinese were in touch with Southeast Asia and could see there were trading possibilities in the area. It was quite easy to sail with the monsoon winds from the coast of China to the Straits of Malacca and back again with the seasons. The Chinese in South China and in North Vietnam—where the unified Chinese Empire had begun to rule in the second century B.C.—had more than 1,500 years of opportunity to expand their trade and political power into Southeast Asia, right down to A.D. 1500.

Indian and Arab traders were at first more active in this region, but eventually Chinese also began to go to Malacca for trade. But the Chinese Government never followed up with colonies or political control. In the 1300's and 1400's, the Chinese Government at Peking sent fleets to the south on the established routes of trade and they got some of the Southeast Asian rulers to send tribute missions to Peking. These Chinese fleets found overseas Chinese trading communities already established in places like Malaya and Sumatra. However, there was no governmental attempt to establish colonial control. The Chinese fleets went back to China and did not come again after 1435.

Almost a century later the first Portuguese got to Malacca in 1511 and to China in 1514 and began the process by which European colonialism took over Southeast Asia. The Portuguese were succeeded by the Dutch and the British and the French, and now in recent years the Americans have been active in that same area, all coming halfway around the world from a great distance. China has remained close at hand all this time, both in the 1,500 years before the Europeans arrived and in the 400 years after that. Yet, China has not even tried to establish colonies in Southeast Asia.

This does not indicate that the Chinese are incapable or stupid, but rather that they have different aims and a different governmental tradition. Their military tradition is defensive and throughout most of their history has been concerned with inner-Asia, where the Russians now pose a menace to their frontiers. Predecessors of the Russians were, first, the Huns in the period B.C. and then, later, the various Mongol tribes, leading up to the Mongol conquest of China in the 13th century.

This record of conquest of China from inner-Asia, which was repeated by the Manchus in the 17th century, has led to a Chinese strategic concentration on the landward side of their realm. Their concern for Russia today carries on this tradition. The Great Wall was built in the period before Christ to mark this frontier and help keep these foreigners out of China. There was no menace from the ocean and no tradition of defense by naval power.

All of this land-minded defensiveness has resulted in China having a very weak naval tradition. This was not a result of technological backwardness. Far from it. The Chinese were the early inventors of the watertight bulkhead, the use of transoms in naval architecture, and also were the early inventors of the axial or sternpost rudder. They were the first to use the compass in navigation, and developed a very efficient lateen-sail rig. Nevertheless, all this did not go on to produce a navy in the modern sense. The Chinese were simply not concerned about naval expansion overseas, nor did any naval power menace them until recent times, when it was too late. It is significant that the Mongols who invaded China by land also tried twice to invade Japan by sea in the late 13th century, but the Chinese never made the effort. Just as they have not colonized under government auspices, so they have not had striking forces going by sea against foreign powers.

What about the new missionary zeal of their Maoist revolution today? They claim today, as they used to do centuries ago, that their system is a model for other countries to follow. How much missionary zeal and subversive proselytism are they going to put behind this idea? They have very little tradition of the adventurous young man who goes abroad to conquer the world and have a career in foreign parts.

China has produced very few missionaries. The rather few Chinese laborers, who in the 19th century contracted to work in foreign countries, did so mainly in order to send remittances back home. China is the center of the Chinese world and not a place to go away from. We cannot judge them by ourselves. We have been raised on the idea of expansionism, and Americans today are great travelers around the world. It seems fairly normal for us to have a million troops overseas

and a million tourists going to Europe. The Chinese have no such tradition. Sending even a few thousand people abroad is for China a great new achievement.

In addition to their attitudes and values being different from ours, the Chinese capacities are strictly limited. Of course, being such a big country, they can mobilize talent and resources to build a nuclear weapon, but I have seen no evidence that they are going into a production program of nuclear devices in any way comparable to ourselves or the Soviets. Their standard of living is still low, and they have many prior demands on their resources. The American public, if it has 30 million handguns and other firearms for hunting and sport, may have as much firepower as the whole Chinese Army today.

How shall we deal with this very different society and its different ways? Surely the first thing to do is to find out more about China, not as a matter of intelligence or statistics, though these are useful, but as a matter of aims and attitudes, life style, and basic values. In recent weeks, the so-called China experts in the United States have been deluged with requests for background information and evaluations.

Speaking as one of these characters, I can say that both the questions and the answers in our public discussion have lacked depth and background. Americans who know the difference between a Catholic and a Protestant cannot tell you the difference between a Confucian and a Buddhist. Even we so-called China experts have an only superficial grasp of some elements. We are one-eyed men who currently play a role only because the public is practically blind.

Chinese studies in the United States are in their infancy and have far to go to catch up with the studies of other countries that we take as a matter of course. Many Americans speak French, German, and Spanish, but our military problems do not now lie in that sector. Very few Americans can read or speak Chinese or Japanese. We are very poorly equipped for contact with those countries, and this lessens our chance of avoiding mutual destruction.

What mechanisms can we set up to right the imbalance in our approach to the Western Pacific? It is easy to make a list of needs. I have no doubt these needs will be met before the decade is over, because it will become apparent in no long time that meeting these needs is going to maximize our chances of survival in the nuclear age.

Need No. 1: Funds on the order of $10 million a year for support of Chinese and Japanese and Vietnamese and Korean libraries in the United States, not only at the Library of Congress but also in the major university centers across the country.

Need No. 2: Say $10 million a year—rising to a larger figure in later years—for the support of advanced training and research of undergraduates and graduate students in American education in the field of East Asian studies. Universities have thus far depended upon the Ford and Rockefeller Foundations, the Carnegie Corp. and other private agencies for their start in East Asian studies. This task is becoming too big for foundations. It is a national need of the first importance.

Need No. 3: Say $10 million for exchange arrangements, for travel of American scholars to East Asia and of East Asian scholars to the United States, in other words an increase in the Fulbright and similar programs and a logical expansion and development of their activities.

The aim here is a give and take between the American and East Asian peoples, helping able individuals to go back and forth and understand each other better on a two-way street.

Federal Government and State and private universities have had a good deal of experience in doing these sorts of things. Federal funds of $30 million or so a year can be handled through all sorts of channels which we already know how to operate. We know that the Government is not obliged to dictate to the educational world. The two can cooperate. But the national need has to be recognized by the Congress before the talent among our citizens can find adequate opportunities for training. Our national need is to understand East Asia before it is too late.

We all recognize, I am sure, that the most heavily armed nations are likely to be the most completely destroyed whenever we lose our grip on peace. The intellectual resources needed for warfare are rather small compared to the intellectual resources needed for avoiding warfare and maintaining peace.

Today we know enough to fight in East Asia. The question is whether we know enough to save ourselves from further fighting in the future. The Chinese are never going to threaten us in this country. The problem is how to stay in contact with East Asia and still stay out of trouble with the East Asian peoples on their home ground. For this the requirements are less military than diplomatic, less material than psychological-intellectual.

I conclude that we Americans are in deep trouble because, as between our two great public institutions—the armed services and the educational system—our national priorities have been unbalanced onto the military side. It is time we redressed the balance on the side of education, ideas, and understanding.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you, Mr. Fairbank.

Mr. Whiting, please proceed.

STATEMENT OF ALLEN S. WHITING, PROFESSOR OF POLITICAL SCIENCE AND ASSOCIATE, CENTER FOR CHINESE STUDIES, UNIVERSITY OF MICHIGAN

Mr. WHITING. I, too, like Professor Cohen, would like to brief my prepared statement and have the full prepared statement received for the record.

Chairman PROXMIRE. The entire prepared statement will appear in the record.

Mr. WHITING. Our military expenditures in Asia have largely been in response to a nonthreat. Moreover, to some extent they have actually provoked a latent Chinese military defense posture which in turn we use to justify further expenditures.

In conjunction with the Chinese nationalists we have sponsored and supported a wide range of espionage, sabotage, and guerrilla activities on the mainland. Those activities created crises in the Taiwan Strait in 1954 and 1958, and furthered a revolt in Tibet in 1959. Covert operations heightened Chinese alarm over Indian advances on the Tibetan frontier in 1962, culminating in the Sino-Indian war that fall.

These crises triggered Chinese Communist military reactions which, in turn, have been used to justify a vast expanse of U.S. military bases, alliances, and military assistance programs throughout Asia, ostensibly to contain the threat of Chinese Communist aggression.

The Chinese Nationalists have, with the knowledge and support of the United States, carried out clandestine air, sea, and land operations against mainland China and neighboring areas for 20 years. From 1950 to 1953, hostilities between Chinese Communist and United Nations forces in Korea may have justified our support for these activities. However, our shadowy involvement with Mao's civil war enemy steadily grew after the Korean war and the Geneva Conference of 1954. The Pentagon papers throw new light on the air operations in particular.

According to a top secret memorandum from Brig. Gen. Edward Lansdale to Gen. Maxwell Taylor, President Kennedy's chief military adviser, a Chinese Nationalist airline, Civil Air Transport—CAT—ostensibly "engaged in scheduled and nonscheduled air operations throughout the Far East" was actually "a CIA proprietary." CAT furnished "air logistical support under commercial cover to most CIA and other U.S. Government agencies' requirements.

Down to 1961, according to General Lansdale, CAT carried out "more than 200 overflights of mainland China and Tibet." These were not reconnaissance but airdrops of supplies and possibly men for guerrilla warfare.

The 1959 Tibet revolt evoked specific accusations from Peking of outside support, openly conceded by the Chinese Nationalists on Taiwan. These claims and counterclaims, however, now gain fresh credibility. Ultimately Tibet was to become so serious a concern in Peking by 1962, partly because of increased overflights, as to spark a war between China and India.

To be sure, as border tension escalated, Indian air reconaissance missions undoubtedly expanded. However, the sensitivity of People's Daily in its heightened reactions to overflights of Tibet suggests an added dimension of concern consequent from suspicion of American-Chinese Nationalist intentions which earlier triggered a Taiwan Strait alarm in June. Peking's fears linked an internal economic crisis with external threats posed by the Soviet Union's subversion in Sinkiang, by India's advances on the Tibetan border and by new invasion indicators from Taiwan. The linkage between India's "forward policy" and the Taiwan invasion threat was not mere propaganda or paranoia. It was rooted in tangible evidence of collusion between the United States-Chiang clandestine operations and Tibetan guerrillas. Indian patrol advances in and of themselves posed more of a political challenge than a military threat; however, as seen from Peking in concert with other hostile postures on China's borders, they necessitated halting. Failing that, they met a firm rebuff.

U.S. activities involving Chinese nationalist facilities or forces carry a latent threat to mainland security, whether or not they are immediately aimed at part of China, such as Tibet or the coastal provinces of Fukien and Chekiang. In this regard, Taiwan's utilization and participation in the Indochina war had doubtlessly been of particular interest to Peking. CAT gradually gave way to a new competitor, China Air Lines—CAL—formed in 1960. In 1961 CAL began

charter operations in Laos; the next year it moved into South Vietnam. Its contribution came to encompass almost half the pilots and planes for Air Vietnam, with significant contribution in pilots to Royal Air Lao. In addition, it carried out "clandestine intelligence operations" frankly characterized by CAL officials as "more dangerous missions."

Taiwan is also the headquarters for Air Asia, a subsidiary of Air America, the latter notorious for its role in the CIA's secret war in Laos. Air Asia's admitted function is "the only facility in the Far East—excluding Japan—with modern jet fighter maintenance and overhaul contracts."

Well over 600 combat aircraft were serviced there in fiscal year 1969. The interest interlock of China Air Lines, Air Asia and Air America supports U.S. attacks in Laos, mounted from bases in Thailand.

This places Peking's concern with this area in a different perspective from that commonly held in Washington. With Bangkok and Taipei supporting Vientiane's forces, at times bombing up to or over the Chinese border, sensed security need may explain much of Peking's expanding military presence in road construction and antiaircraft activities in Northern Laos. What is depicted elsewhere as posing a threat to Thailand can also serve China as a buffer zone to protect against hostile probes of Yunnan province.

Only a complete investigation of all Chinese Nationalist activities in the area and clandestine U.S. support thereof can fully clarify Chinese Communist motivations and objectives in those portions of Burma, Laos and Thailand adjoining the People's Republic.

In sum, there is a credible case that overt and covert United States-Chinese nationalist activities have aroused Chinese Communist security concerns, resulting in heightened military deployments toward and across China's borders. This activity, in turn, has been used to justify increased American and allied military investment throughout Asia to guard against the so-called Chinese Communist aggressive threat.

Our most provocative posture, of course, exists on Taiwan, where, only 4 years after the Korean war, we built a major strategic bomber base capable of serving our B–52's. Also at that time we deployed to Taiwan nuclear-capable, 600-nautical-mile range Matador missiles, the first in the Far East.

Again, in 1962, when foreign diplomats reliably reported "panic in Peking," we moved the first U.S. combat air unit to Taiwan. Today more than 7,000 American military personnel man the $45 million base of Ching Chuan Kang, supporting operations in Vietnam. Meanwhile the Chiang regime has expanded other airfields as potential strategic bomber facilities. In short, the past 15 years of our military activities on Taiwan have brought a steady increase in the capability of that island to threaten mainland China.

Assuming that our withdrawal from Vietnam removes the need for Ching Chuan Kang and associated personnel, the remaining American military presence also bears scrutiny. At least until recently, we had more than 660 Air Force officers and enlisted men there, unaffiliated with any specific base.

Another 190 U.S. military personnel comprised the Taiwan Defense Command, of whom 90 were identified in "communications" and 50

in "intelligence." All these were, of course, separate from the U.S. Military Assistance Advisory Group (MAAG) which numbered almost 500.

Although we have furnished more than $2.5 billion in military aid over 20 years, as of fiscal year 1970 we still authorized $25 million in MAP expenditures, supplemented by another $35.9 million in "excess equipment" deiveries. These deliveries, unauthorized, uncontrolled and often unknown to the Congress, promise to Taiwan a steady stream of cutrate weapons out of the mammoth Vietnam stockpile. In fiscal year 1970 they included a squadron of F–104's, more than 30 C–119 transports, 50 medium tanks, thousands of M–14 rifles, a Nike-Hercules battalion and five destroyers.

Obviously, this is a sizable package for a military establishment that already has almost 600,000 men guarding an island only 250 miles long and less than 100 miles wide. Yet this indirect military assistance has lain beyond congressional control, despits its implications for our relations with both Peking and Taipei, not to mention mainlander Taiwanese relations on the island itself.

In this regard, assessment of our actual and perceived involvement with the Chinese Nationalists has been seriously hampered by secrecy and censorship.

Now, however, we must see the problem in all its ramifications. So long as we provide concrete evidence to Taipei and Peking alike that our military and intelligence interests are tied to Taiwan and the nationalists, both Chinese regimes will draw negative conclusions concerning our expressed desire that they settle the Taiwan problem peacefully and between themselves.

Moreover, in Peking those responsible for military contingency planning will continue to allocate resources against a United States-Chiang threat of subversion, if not of invasion.

In Tapei, demands will continue for increased military aid to match mainland developments. And in Washington, the military-intelligence complex will argue that helping our ally helps ourselves through continued involvement with and support to the Taiwan regime.

Last, but not least, important groups in Japan will press for retaining Taiwan by any means, with or without Chiang, because of its strategic importance. This is the ultimate danger as seen from Peking. James Reston, direct from an interview with Chou En-lai, reports "on the highest authority that officials here are * * * furious because they think this (U.N. formula) was reached as a result of pressure from both Japan and Chiang Kai-shek."

The eminent New York Times reporter continues, "At the nub of the problem here, if one hears these top officials clearly, Japanese economic power and military potential, and the Taiwanese independence movement—independent of both Chiang Kai-shek and Mao Tse-tung—are this capital's nightmares."

It is no coincidence that the Chinese Communists as well as the Chinese Nationalists suspect that escape from Taiwan of Professor Peng Ming-min in early 1970 was a plot by United States or Japanese intelligence, or both. Recently Chou En-lai in an unprecedented interview personally attacked Professor Peng and the Taiwanese Independence Movement as instruments of a foreign power. Nor are these suspicions incredible. Our military and intelligence investment in Taiwan

convinces observers, whether in Taipei, Peking, or Tokyo, that this is seen as an important asset which must be retained by whatever means, whether directly in U.S. hands or through allied control.

But the path to peace in the Pacific does not lie through increasing Japan's armaments, much less acquiescing in Japanese aspirations for nuclear weapons as hinted by press backgrounders during the recent visit of Secretary of Defense Laird. It lies in a concerted effort with the People's Republic of China to arrive at arms control agreements and nuclear free zone arrangements which can stop the mutual escalation of military expenditures. Only a convincing and credible reversal of our own military-intelligence use of Taiwan can lay the basis for confidence necessary to make President Nixon's "journey for peace" a successful reality.

Thank you, Mr. Chairman.

Chairman PROXMIRE. Thank you, Professor Whiting.

(The prepared statement of Mr. Whiting follows:)

PREPARED STATEMENT OF ALLEN S. WHITING

PEKING-TAIPEI-WASHINGTON: TENSE TRIANGLE

SUMMARY AND INTRODUCTION

President Nixon deserves the highest praise for undertaking so bold an effort to reverse the course of United States-China relations in his announced trip to Peking. Never has the cliche "an historic moment" been more appropriate than at this juncture when the hopes and fears of Americans and Asians alike focus on the forthcoming meeting between President Nixon and Premier Chou En-lai. No past summit meeting between an American president and a Communist leader has resolved any existing problems, but they have laid some basis of communication and understanding which prevented these problems from escalating to conflict. So too this meeting is unlikely to bring peace to Indo-China or, at one stroke, dispose of Taiwan's future. However, if it is to lay the basis for better relations between the United States and the People's Republic of China, it must go far beyond the "exchanges of view" of Geneva, 1955, and Glassboro, 1967. It must mark concrete concessions by both sides on the most fundamental clash of interests, U.S. relations with Chiang Kai-shek and the status of Taiwan.

The present U.S. Ambassador to the Republic of China has testified. "Any U.S. military presence or military-related activity on Taiwan is viewed by the Chinese Communists with especial hostility, since Peking considers such activity on Taiwan as interference in its internal affairs."[1] This statement conceals a double-truth. First, we did interfere in China's internal affairs when, in June 1950, we interposed the U.S. 7th Fleet between two sides in a civil war. And we have intervened ever since, to the tune of $2.5 billion in military assistance to one side, the Nationalists, coupled with a treaty commitment to defend them from attack by the other side, the Communists.

But even more direct and threatening an interference in China's internal affairs, at least as perceived by Peking, has been what Ambassador McConaughy elliptically referred to as our "military-related activity". In conjunction with the Chinese Nationalists we have sponsored and supported a wide range of espionage, sabotage, and guerrilla activities on the mainland. These activities created crises in the Taiwan Strait in 1954 and 1958, and furthered a revolt in Tibet in 1959. Covert operations heightened Chinese alarm over Indian advances on the Tibetan frontier in 1962, culminating in the Sino-Indian war that fall. These crises triggered Chinese Communist military reactions which, in turn, have been used to justify a vast expanse of U.S. military bases, alliances, and military assistance programs throughout Asia, ostensibly to contain the threat of Chinese Communist aggression.

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[1] Hearings before the Subcommittee on U.S. Security Agreements and Commitments Abroad of the Committee on Foreign Relations, U.S. Senate, 91st Cong., vol. I, pt. 4, "The Republic of China," testimony of Ambassador Walter P. McConaughy, p. 1128; hereafter cited as "U.S. Security Agreements and Commitments Abroad."

Such developments bear scrutiny by the American people and, thanks to the so-called Pentagon Papers, partial documentation can now prove what journalists could previously only allege. In the past, secrecy has primarily served to conceal the facts from American audiences; the details have long been known in Peking. If, however, we are to understand the concrete provocations which underlie Peking's demand that we "withdraw all U.S. bases and military personnel from Taiwan" the facts must be known, for not unless we cease and desist from all operations involving the Chinese Nationalists, whether from Taiwan and the offshore islands or elsewhere in Asia, can we be truly hopeful that President Nixon's plan to visit Peking will result in a successful "journey of peace".

CLANDESTINE CHINESE NATIONALIST AIR ACTIVITY: TAIWAN TO TIBET, 1954–61

The Chinese Nationalists have, with the knowledge and support of the United States, carried out clandestine air, sea, and land operations against mainland China and neighboring areas for 20 years. From 1950 to 1953, hostilities between Chinese Communist and United Nations forces in Korea may have justified our support for these activities. However, our shadowy involvement with Mao's civil war enemy steadily grew after the Korean war and the Geneva Conference of 1954. The Pentagon Papers throw new light on the air operations in particular. According to a top secret memorandum from Brig. Gen. Edward Lansdale to Gen. Maxwell Taylor, President Kennedy's chief military adviser, a Chinese Nationalist commercial airline, Civil Air Transport (CAT), ostensibly "engaged in scheduled and nonscheduled air operations throughout the Far East," was actually "a CIA proprietary." [2] CAT furnished "air logistical support under commercial cover to most CIA and other U.S. Government agencies' requirements * * * by providing trained and experienced personnel, procurement of supplies and equipment through overt commercial channels, and the maintenance of a fairly large inventory of transport and other type aircraft under both China and U.S. registry."

CAT's activities ranged far beyond the confines of China. As early as 1954, for instance, Lansdale, then a colonel, organized paramilitary teams in Saigon for sabotage and guerrilla warfare in North Vietnam. He reported that "CAT provided SMM (Saigon Military Mission) with the means for secret air travel between the North and Saigon." [3] In 1958 Lansdale also claimed that CAT furnished "complete logistical and tactical support for the Indonesian operation," an abortive CIA effort to overthrow Sukarno through an army rebellion in Sumatra.[4] But most relevant for our purpose is the revelation that down to 1961 CAT had carried out "more than 200 overflights of mainland China and Tibet." [5] The 1959 Tibet revolt evoked specific accusations from Peking of outside support, openly conceded by the Chinese Nationalists on Taiwan.[6] These claims and counterclaims, however, now gain fresh credibility. Ultimately Tibet was to become so serious a concern in Peking by 1962, partly because of increased overflights, as to spark a war between China and India.

The distance from Taiwan to Tibet precludes direct flight by conventional aircraft, requiring an intermediate base, most probably in Thailand. When an unscheduled CAT C–47 transport crashed in the Gulf of Siam near Bangkok in October 1953, two Americans were aboard; no public explanation of the flight's purpose ever emerged.[7] In 1960, Indian Defense Minister Krishna Menon protested to Peking "against repeated flights of Chinese planes over India's North East Frontier Agency," declaring in Parliament that "reports of 43 air violations had been received so far" that year.[8] Chou En-lai privately assured Nehru 3 weeks later that investigation had shown the aircraft were American.[9] Another Indian protest that August evoked a public denial from Peking which asserted that the aircraft "took off from Bangkok, passed over Burma or China and crossed the Chinese-Indian border to penetrate deep into China's interior where they parachuted weapons, supplies, and wireless sets to secret agents and then flew back to Bangkok again passing over the Chinese-Indian border." [10]

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[2] "The Pentagon Papers." Bantam Books, Inc., 1971, p. 137.
[3] Ibid., p. 57.
[4] Ibid., p. 137.
[5] Ibid., p. 137.
[6] The New York Times, Mar. 27, 1959.
[7] Ibid., Oct. 21 and 24, 1954.
[8] Ibid., Apr. 7, 1960.
[9] New China News Agency (NCNA) dispatch of Sept. 17, in New York Times, Sept. 18, 1960.
[10] Ibid.

Peking's statement further revealed that Chou En-lai had notified Burma it was fully entitled to move against any unidentified aircraft in its airspace "either forcing them to land or shoot them down," so confident was Chou that these were not Peking's planes. That September the Burmese did shoot down a Chinese Nationalist PB4 long distance patrol bomber allegedly ferrying supplies to guerrillas in northern Burma, Laos, and southern Yunnan Province in China. (This type of aircraft was utilized by the U.S. Navy in World War II.) At the same time U.S. military attaches in Rangoon confirmed that supplies captured by the Burmese Government from Chinese Nationalist guerrillas included 5 tons of ammunition packed in boxes marked with U.S. aid labels. Chiang Kai-shek sent an apology to Thailand where the plane eventually crashed after being hit over Burma, but later Chinese Nationalist intelligence officers in Taipei insisted the flights would continue.[11]

Continue they did, apparently at a sharply increased rate in 1962 judging from Peking's protests to India.[12] To be sure, as border tension escalated, Indian air reconnaissance missions undoubtedly expanded. However, the sensitivity of People's Daily in its heightened reactions to overflights of Tibet suggests an added dimension of concern consequent from suspicion of American-Chinese Nationalist intentions which earlier triggered a Taiwan Strait alarm in June. Peking's fears linked an internal economic crisis with external threats posed by the Soviet Union's subversion in Sinkiang, by India's advances on the Tibetan border, and by new invasion indicators from Taiwan.[13] The linkage between India's "forward policy" and the Taiwan invasion threat was not mere propaganda or paranoia. It was rooted in tangible evidence of collusion between the United States-Chiang clandestine operations and Tibetan guerrillas. Indian patrol advances in and of themselves posed more of a politiacl challenge than a military threat; however, as seen from Peking in concert with other hostile postures on China's borders, they necessitated halting. Failing that, they met a firm rebuff.[14]

TAIWAN AND U.S. ACTIONS IN SOUTHEAST ASIA

U.S. activities involving Chinese Nationalist facilities or forces carry a latent threat to mainland security, whether or not they are immediately aimed at part of China, such as Tibet or the coastal provinces of Fukien and Chekiang. In this regard, Taiwan's utilization and participation in the Indochina war had doubtlessly been of particular interest to Peking. CAT gradually gave way to a new competitor, China Air Lines (CAL), formed in 1960. In 1961 CAL began charter operations in Laos; the next year it moved into South Vietnam.[15] Its contribution came to encompass almost half the pilots and planes for Air Vietnam, with significant contribution in pilots to Royal Air Lao. In addition it carried opt "clandestine intelligence operations" frankly characterized by CAL officials as "more dangerous missions".[16]

Taiwan is also the headquarters for Air Asia, a subsidy of Air America, the latter notorious for its role in the CIA's secret war in Laos. Air Asia's admitted function is "the only facility in the Far East (excluding Japan) with modern jet fighter maintenance and overhaul contracts."[17] Well over 600 combat aircraft were serviced there in fiscal year 1969. The interest interlock of China Air Lines, Air Asia, and Air America supports U.S. attacks in Laos, mounted from bases in Thailand. This places Peking's concern with this area in a different perspective from that commonly held in Washington. With Bangkok and Taipei supporting Vientiane's forces, at times bombing up to or over the Chinese border, sensed security need may explain much of Peking's expanding military presence in road construction and antiaircraft activities in Northern

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[11] The New York Times. Feb. 17, 18, and 24, 1961; also Mar. 4, 1961.

[12] Allen S. Whiting and Kuang-sheng Liao, "Chinese Mass Media Reactions to the Sino-Indian Border Conflict" and "The Process of Escalation of the Sino-Indian Border Conflict." These unpublished research studies are part of a forthcoming book on Chinese decisions and behavior on the Sino-Indian war. Chinese allegations of "Indian" air violations increased sixfold during 1962 and press reaction became increasingly sensitive to these incidents as the crisis escalated.

[13] For details on these developments, see Harold Hinton, "Communist China in World Politics," Houghton Mifflin, 1966.

[14] Nevile Maxwell, "India's China War," Pantheon, 1971, offers the definitive history of Indian planning and of the "forward policy," despite repeated warning and deterrence signals from Peking. Maxwell bases his account on first-hand interviews and access to unpublished government papers in New Delhi.

[15] The New York Times, Apr. 3, 1967.

[16] Ibid.

[17] "U.S. Security Agreements and Commitments Abroad," op. cit., p. 104.

Laos.[18] What is depicted elsewhere as posing a threat to Thailand can also serve China as a buffer zone to protect against hostile probes of Yunnan Province.

In dealing with a secret war, the evidence is inevitably fragmentary; however, it is nonetheless suggestive so far as direct Chinese Nationalist involvement in Vietnam is concerned. In May 1964, special guerrilla paratroopers were reportedly being trained by U.S. Army Rangers in Tailwan, after earlier high level military visits from Saigon had discussed possible Chinese Nationalist assistance.[19] Two months later Hanoi announced the trial and sentencing of 17 alleged Taiwan-trained commandos, survivors of a 26-man group sent into North Vietnam 1 year previous.[20] In 1969 the Republic of China was officially acknowledged to have several dozen "psychological warfare" personnel in South Vietnam.[21] Only a complete investigation of all Chinese Nationalist activities in the area and clandestine U.S. support thereof can fully clarify Chinese Communist motivations and objectives in those portions of Burma, Laos, and Thailand adjoining the People's Republic.

In sum, there is a credible case that overt and covert United States-Chinese Nationalist activities have aroused Chinese Communist security concerns, resulting in heightened military deployments toward and across China's borders. This activity, in turn, has been used to justify increased American and allied military investment throughout Asia to guard against the so-called Chinese Communist aggressive threat. Our most provocative posture, of course, exists on Taiwan where, only 4 years after the Korean war, we built a major strategic bomber base capable of serving our B–52's.[22] Also at that time we deployed to Taiwan nuclear-capable, 600-nautical-mile range Matador missiles, the first in the Far East.[23] Again in 1962, when foreign diplomats reliably reported "panic in Peking," we moved the first U.S. combat air unit to Taiwan.[24] Today more than 7,000 American military personnel man the $45 million base of Ching Chuan Kang, supporting operations in Vietnam. Meanwhile the Chiang regime has expanded other airfields as potential strategic bomber facilities.[25] In short, the past 15 years of our military activities on Taiwan have brought a steady increase in the capability of that island to threaten mainland China.

Assuming that our withdrawal from Vietnam removes the need for Ching Chuan Kang and associated personnel, the remaining American military presence also bears scrutiny. At least until recently, we had more than 660 Air Force officers and enlisted men there, unaffiliated with any specific base.[26] Another 190

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[18] NCNA, Jan. 22, 1968, reported a Chinese Ministry of Foreign Affairs protest of Jan. 12, 1968, alleging "three pirate planes of U.S. imperialism and its lackeys, the Laotian Rightists, brazenly intruded into China's airspace and bombed the Miaochi area of Yunnan Province, killing and wounding a number of Chinese inhabitants there and causing serious losses to the life and property of the local population." The protest also charged that, "instigated and commanded by the United States and Thailand, these [Laotian] forces have even started a massive military attack on the upper Laos liberated areas bordering China and Vietnam." According to a CIA study released through the Symington subcommittee, "The Chinese buildup of antiaircraft defense [in northern Laos] began after an attack by two Laotian planes in January 1970"; the New York Times, Aug. 3, 1971. The report claimed a total of 395 Chinese guns included 85-mm. and 10-mm. effective up to 68,000 feet. The report noted that "on at least two occasions the road had been attacked by unmarked Royal Laos Air Force T–28's furnished by the United States." The Chinese allegedly increased their roadbuilding force from 6,000 to between 14,000 and 20,000 from 1969 to 1971.

[19] The New York Times, May 13, 14, and 16. The Saigon mission which visited Taipei in March was headed by Maj. Gen. Tran Thien Khiem, commander in chief of the South Vietnamese armed forces. According to National Security Action Memorandum No. 288, "U.S. Objectives in South Vietnam," Mar. 17, 1964, "a modest 'covert' program [was] operated by South Vietnamese (and a few Chinese Nationalists)." The Pentagon Papers, p. 284.

[20] Ibid., July 14, 1970, from a Tokyo report of the Radio Hanoi announcement, July 13.

[21] "U.S. Security Agreements and Commitments Abroad," op. cit., p. 1128.

[22] The New York Times, Jan. 4 ,1957, announced the project; completion was reported ibid., July 29, 1959. "U.S. Security Agreements," op. cit., details the base history, p. 1125 and p. 1131.

[23] Ibid., May 7, 1957, revealed the Matador deployment; ibid., May 3, 1958, reported the first Matador test firing.

[24] "U.S. Security Agreements and Commitments Abroad," op. cit., p. 1027. One detachment of the 405th Fighter Wing, equipped with F–100's, arrived in 1962. These were subsequently changed to F–4's, adding a bomber capability to the basic fighter role.

[25] Ibid., pp. 1013 ff; also pp. 1096–98 and p. 1133. At least four airfields on Taiwan have runways of 10,000 feet or more.

[26] Ibid., p. 1025 and p. 1134. In 1969, the 327th Air Division was located on Taipei Air Station with a real property value of $1.9 million and personnel strength of "about 668," to discharge the Air Force responsibilities for the employment and/or services support of Air Force units on or deployed throughout the Taiwan area; coordinate operations with the Chinese Air Force; provide logistic, administrative, and/or service support for military and U.S. Government agencies on Taiwan as directed by the commander, 13 Air Force;" etc.

U.S. military personnel comprised the Taiwan Defense Command, of whom 90 were identified in "communications" and 50 in "intelligence." [27] All these were, of course, separate from the U.S. Military Advisory Group (MAAG) which numbered almost 500. Although we have furnished more than $2.5 million in military aid over 20 years, as of fiscal year 1970 we still authorize $25 million in MAP expenditures, supplemented by another $35.9 million in "excess equipment" deliveries. These deliveries, unauthorized, uncontrolled, and often unknown to the Congress, promise to Taiwan a steady stream of cutrate weapons out of the mammoth Vietnam stockpile. In fiscal year 1970, they included a squadron of F–104's, more than 30 C–119 transports, 50 medium tanks, thousands of M–14 rifles, a Nike-Hercules battalion, and five destroyers.[28] Obviously, this is a sizable package for a military establishment that already has almost 600,000 men guarding an island only 250 miles long and less than 100 miles wide. Yet this indirect military assistance has lain beyond congressional control, despite its implications for our relations with both Peking and Taipei, not to mention mainlander-Taiwanese relations on the island itself.

In this regard, assessment of our actual and perceived involvement with the Chinese Nationalists has been seriously hampered by secrecy and censorship. It is impossible to believe that the many deletions from the Symington subcommittee hearings on U.S. security agreements denied Peking much it did not already know, given the ease of penetrating the local populace and of communications between Taiwan and the mainland.[29] Certainly Peking has known more of what has been going on than has Washington, or at least the legislative branch of our Government. Now, however, we must see the problem in all its ramifications. So long as we provide concrete evidence to Taipei and Peking alike that our military and intelligence interests are tied to Taiwan and the Nationalists, both Chinese regimes will draw negative conclusions concerning our expressed desire that they settle the Taiwan problem peacefully and between themselves. Moreover, in Peking, those responsible for military contingency planning will continue to allocate resources against a "U.S.-Chiang" threat of subversion, if not of invasion. In Tapei, demands will continue for increased military aid to match mainland developments. And in Washington, the military-intelligence complex will argue that helping our ally helps ourselves through continued involvement with and support to the Taiwan regime.

Last but not least, important groups in Japan will press for retaining Taiwan by any means, with or without Chiang, because of its strategic importance. This is the ultimate danger as seen from Peking. James Reston, direct from an interview with Chou En-lai, reports "on the highest authority that officials here are * * * furious because they think this [U.N. formula] was reached as result of pressure from both Japan and Chiang Kai-shek." [30] The eminent New York Times reporter continues, "At the nub of the problem here, if one hears these top officials clearly, Japanese economic power and military potential, and the Taiwanese independence movement—independent of both Chiang Kai-shek and Mao Tse-tung—are this capital's nightmares."

It is no coincidence that the Chinese Communists as well as the Chinese Nationalists suspect that escape from Taiwan of Prof. Peng Ming-min in early 1970 was a plot by United States or Japanese intelligence, or both. Recently Chou En-lai in an unprecedented interview personally attacked Professor Peng and the Taiwanese independence movement as instruments of a foreign power.[31] Nor are

[27] Ibid., p. 1004. The Taiwan Defense Command "has a primary mission of planning the defense of Taiwan, the Pescadores, and the Offshore Islands in support of the Mutual Defense Treaty of 1954 and the joint congressional resolution of 1955. A secondary mission is to be prepared to conduct any operations as directed by the Commander in Chief, Pacific Forces"; ibid., p. 1120. This group could be withdrawn without impairment to the security of Taiwan, since presumably its 16 years of operation since establishment in 1955 provided ample opportunity to plan against every conceivable threat. It is interesting to note the responsibility includes "the Offshore Islands," although most administration spokesmen since 1958 have insisted we have no obligation to defend these islands lying within a few miles of mainland China.

[28] Ibid., p. 1068.

[29] Attention should be drawn to the opening note by Walter H. Pincus, "As a result of deletions of factual material from this record * * * the published transcript is incomplete in several meaningful areas. These include increase or decrease of U.S. and/or Nationalist Chinese military activities on Taiwan and the relationship to Red China * * *. In my view, these deletions hide nothing of a national security nature from a potential enemy, but do prevent the American people from knowing facts important to their understanding of the U.S. activities and relationships in this most important area"; ibid., p. 918b.

[30] The New York Times, Aug. 6, 1971. Reston's remarks did not have direct attribution; a separate dispatch in the same issue reported his meeting with Chou En-lai.

[31] The New York Times, July 1971.

these suspicions incredible. Our military and intelligence investment in Taiwan convinces all observers, whether in Taipei, Peking, or Tokyo, that this is seen as an important asset which must be retained by whatever means, whether directly in U.S. hands or through allied control.

But the path to peace in the Pacific does not lie through increasing Japan's armaments, much less acquiescing in Japanese aspirations for nuclear weapons, as hinted by press backgrounders during the recent visit of Secretary of Defense Laird.[22] It lies in a concerted effort with the People's Republic of China to arrive at arms control agreements and nuclear free zone arrangements which can stop the mutual escalation of military expenditures. Only a convincing and credible reversal of our own military-intelligence use of Taiwan can lay the basis for confidence necessary to make President Nixon's "Journey for peace" a successful reality.

Chairman PROXMIRE. Professor Whiting, as a former State Department official, I should ask you this question first, but I would like the other witnesses to address it also.

Each of the opening statements underline the question implicit in my own earlier remarks: Are we spending too much or too little in military outlays in Asia? If we have been wrong these many years in viewing China as an expansionist, aggressive nation, if her real intent is to live peacefully within her borders, how can our enormous military expenditures in Asia be justified?

Mr. WHITING. I think that the Korean war did define our estimate of the threat to the West Pacific in an entirely different framework from that which had been been entertained by the Truman administration. Prior to that war there was no anticipation of the North Korean invasion of South Korea, as is clear from the record, nor indeed was the Chinese willingness to take real risks and sacrifices on behalf of its security anticipated at the higher levels of government down to November of 1950. And in the shock of discovery that other nations' interests were taken that seriously, there was an exaggeration of what lay ahead. The image of hoards of Chinese manpower pouring into Korea was a reality. Hoards did come in, at a tremendous sacrifice. And it was then assumed that similar situations might arise in the Indochina peninsula and in the Vietnam war, and that indeed the Chinese support of subversion elsewhere would lead to an expansion of power beyond all reasonable means of containment. Thus the "mass retaliation" doctrine was announced. It required extra strategic forces in that theater separate from those of the Soviet Union. This was never questioned because of the policy of McCarthyism and every challenge to that notion became tantamount to treason, not only in the Government but in the academic community of the United States.

I think that it has taken time, and it has taken the removal of that inhibition against speaking out for us to refocus our concern to realize that there is not that military threat coming out of China to the United States or the area, and that the situation in the Korean Peninsula is a function of Korean actions and not Chinese actions. The capture of the *Pueblo* and the shooting down of our intelligence aircraft off of Korea was not triggered from Peking; indeed, the Chinese response at the time was one of rather reluctant support from Peking. Nor was the Vietnamese war directed from Peking but obviously and clearly from Hanoi.

If we then accept these past errors as a function of the limited experience at the time, the domestic politics of the United States and

[22] The Washington Post, July 7 and 14, 1971; the New York Times, July 6, 1971.

the trauma of the Korean war, I think we can understand how they have evolved and hopefully correct them today.

Chairman PROXMIRE. When you say correct them today, you mean we are spending too much? Can you give us any notion of how much too much? How much can we safely reduce our immense commitment over there?

Mr. WHITING. I would say our Polaris-Poseidon force in the Western Pacific is so great in its strategic deterrent power over the next decade that we have virtually no need for any strategic bomber bases in that theater, that instead of increasing we could decrease to a minimum our presence and still reassure those countries to whom we are allied that we are indeed committed to those defense treaties we have signed; I am speaking here primarily of South Korea and Japan.

Chairman PROXMIRE. I indicated in my opening remarks that we are spending $16 billion in the Asian theater, not counting the amount we are spending in the Vietnam war, and I pointed out that this was a very large part of our total conventional commitment, the $16 billion compared to the $19 billion that we are spending in Europe.

Can you give us any notion of what this would mean in terms of savings of our own resources?

Mr. WHITING. I am afraid, sir, I am not a cost analyst, and I would not make any pretension to quantifying in dollar terms what the savings could be. I see no real utility for 20,000 or 40,000 men in South Korea, and that entire cost can be eliminated without jeopardy to the credibility of our commitment or to the security of South Korea.

I see no role for any of the bases that we have maintained or hope to keep alive in Japan.

Certainly our entire establishment in Taiwan can be closed forthwith, and should be.

The type of forces that we have maintained in Clark in the Philippines have been expanded because of the Vietnam war, and if the Vietnam war is, as the President promises, eliminated as a cost factor in the very near future, then presumably that force structure in the Philippines could also be collapsed. I would suggest that this kind of line item approach would give you a better figure than something I would grab out of the air.

Chairman PROXMIRE. Mr. Fairbank.

Mr. FAIRBANK. I feel this situation that Mr. Whiting has just revealed about the American military activity under the guise of American aid is all of a piece with our Vietnam problem. Here we have had a relationship with Taiwan. The public has not realized the extent to which we have used Taiwan for this offensive action. We have been outraged in this country in recent months with the idea that the civilian administration did not keep the public informed as to vital decisions of involvement in war in Vietnam. We have or should be equally outraged, if we have any of that sentiment left, about the way in which the military had their capacity under the argument of secrecy of operations in the CIA, to conduct wars which in turn produced responses as from the People's Republic without the American public knowing about it. This is a very unfair situation for any people to be placed in. They are confronted with the fact that the Chinese for some reason are extremely militant toward us. The Chinese seem to be threatening us and claiming we should not do this or that and not be aggressive.

And yet the American public lacks the evidence to understand why we seem to be aggressive. And the institutional structure that we have is such that we are not supposed to know that these secret military things are being done. It is not possible to have your secret operation known to the public, and the result is that we have been led, and the American public has been led, into animosity toward China in the period Mr. Whiting has been discussing, and out of ignorance of the fact that we also have contributed to the animosity.

Now, this is not a basis on which we can survive. And to put it very simply, I don't think that we are going to make it. We have a military institution in this country that is too big to be brought under public control, unless a committee such as yours, sir, can bring it to public information.

Chairman PROXMIRE. One of your conclusions is that the Chinese will never threaten this country. Now, of course, our concern with the Chinese power goes far beyond this country. We are not simply looking at our own interests here—maybe we should but we are not—we are also concerned with our interests in the Pacific.

Would you extend that observation to say that the Chinese will never threaten our interest as a Pacific power?

Mr. FAIRBANK. Any Chinese threat to us is part of the balance of forces. And the thing I have just mentioned is that we don't know the balance of forces. We are using force not knowing it with our left hand secretly; and we are then outraged when the other side, the Chinese, respond in some way. Now, we can build up a Chinese threat very easily.

Chairman PROXMIRE. You say we build up a Chinese threat. What I am getting at is, would you conclude that most of the $16 billion that we seem to be spending in the Far East, in addition to the $13 billion or so we are spending in Vietnam, most of that $16 billion is unnecessary, it is built on our own myth, our own misunderstanding, our own self-deception?

Mr. FAIRBANK. I am personally of the view that those who arm are most likely to be destroyed. And I simply do not believe that our armament policy at present is a defense policy: it is rather like putting our finger in the door and waiting for the door to close, or putting our necks on the block and waiting for the knife to fall. Insofar as we have built up our military posture in the name of defense, we have collaborated with the military people of other countries to do the same. There is no end to this and the only out is to stop the defense effort.

Now, this is a very simplistic approach. But I have not seen anybody who has a better idea. Once you start talking about countering the threat of others, you are off in the game of the escalation——

Chairman PROXMIRE. Mr. Fairbank, many undoubtedly share that view, but many do not. Supposing we do not share that view, supposing we think we have to be prepared to meet any real threat to the teeth, we have to be prepared to meet and overwhelm any threat to this country. On the basis of your testimony as an expert on China, and the testimony of Mr. Whiting and Mr. Cohen this morning, I would assume that you would still argue that just from the standpoint of deployment of military forces on the assumption you have to have them to meet any real threat cannot be justified in the Far East simply because China doesn't represent a threat, they don't have the economy

to represent a threat, they don't have the force in-being or the potential force to do it, they don't have the navy, they don't have the industry, they don't have the air force or the capability of building an air force, there just isn't anything there that can really threaten this country, except possibly in Southeast Asia, possibly in the Korean Peninsula, period.

The factor that persuades me on this—and I would like to be disabused if I am wrong—is that they are not even threatening Quemoy and Matsu 2 or 3 miles offshore, let alone Formosa, let alone the Philippines, let alone Hawaii, or any other base in the Pacific. What really are we concerned about? Why are we deploying these billions and billions of dollars worth of defense on the assumption—again, I don't want you to take any notion that the best way to meet force is for us to reduce our force, with the feeling that they may do the same—I am assuming that we have to recognize force and meet it hard and head on. When it is not there we are just throwing our money away.

Mr. WHITING. If I could intervene at this point, Mr. Chairman, I would like to say that in the South Korean situation a great deal of this investment is directed not at Peking primarily but against the North Korean threat.

In this regard I think it is fascinating that Premier Chou En-lai's interviews with James Reston of the New York Times dealt rather heavily with the Korean question as another one that he would like to see explored. I think a genuine concern to the Chinese, as it should be, is that another war in the Korean Peninsula would be frightful to contemplate, that forces now in the area could escalate far beyond the last war, and perhaps lead to the introduction of nuclear weapons. And yet we have assumed that the only way to live with the Korean situation is to increase the defense capabilities of the south as the defense capabilities of the north increase, which is a perpetual arms race gambling on the restraint of the men in Pyongyang. Premier Chou En-lai is not saying that we should withdraw, period. He is saying that there should be the negotiations to end the Korean war. He has gone back to the 1954 failure at Geneva. I think that it is futile to talk about simply increasing Japanese expenditures and our investment in the area to meet the Chinese threat. We should take up the earlier Chinese proposal for nuclear agreements in the area and see what kind of convergent interest and shared costs might lie in the joint sharing programs of that type, instead of unilaterally pumping more money and more weapons in on all of our allied countries to produce this defense capability.

Mr. COHEN. Mr. Chairman, could I just comment on these problems?

Chairman PROXMIRE. Yes.

Mr. COHEN. I think, first of all, what Mr. Whiting has just said about South Korea—that the Chinese desire some sort of settlement there, not merely the withdrawal of U.S. forces—is correct. It also appears to coincide with the wishes of both Pyongyang and Seoul.

In recent weeks both sides made statements that they would like to begin talking to each other about the problem of eventual unification. And I think we should certainly do what we can to encourage that. Now, Chou En-lai wants us to withdraw our troops not only from South Korea and Vietnam but he also wants us to end any pressure

for Japanese rearmament, and also to withdraw troops from Thailand and the Philippines as well as Taiwan, of course. Mr. Reston seemed to indicate that Chou was asking too much in asking us to withdraw troops from the Philippines and Thailand. I frankly don't understand Reston's view because it seems to me, as the Thais have made clear, once the Vietnam conflict is over, our troops should not have any real role in Thailand; Thailand would be better equipped also to handle its own modern insurgency problems without the presence of American troops.

I think the instability of Government in the Philippines calls for not only a more vigorous Philippine Government, more responsive to the needs of that society, but also the withdrawal of the stimulus that the presence of American troops seems to provide the leftist elements for an anti-American posture that in turn weakens the government that invites the troops.

I don't see the problem in gradually withdrawing, in accordance with the Nixon doctrine, troops from Thailand and the Philippines as well as these other places.

I think we have got to distinguish Taiwan very clearly from these other places. The Chinese claim Taiwan is Chinese territory. They do not claim that the Philippines, Thailand, Japan, and Korea are Chinese territory. And we have to distinguish Chinese aims and ambitions with respects to Taiwan from those with respect to these other places. It doesn't mean that the Chinese are prepared to take over Taiwan by force. The evidence suggests that they are hoping Taiwan will be reunified with the mainland through means other than force.

The Chinese are not naive. They realize they have a very grave problem on their northern border. It has just been accentuated by the Soviet treaty with India. They understand that action against Taiwan would leave them open on the northern border as well as elsewhere; and they would also be creating, kindling, you might say, the latent Taiwanese independence movement if they sought to use force against Taiwan.

So even with respect to Taiwan, which they distinguish from these other areas, we don't see a great emphasis on the use of force.

I would think we certainly could withdraw our troops from South Korea. But I would say that Japan should also be distinguished from all these other areas.

The Chinese would like us to sever our security treaty as well as withdraw troops from Japan. And they would really like to see us liquidate our entire operation in Asia. I don't think we can ignore what Chou himself conceded to be a contradiction in Chinese policy. They want to see us withdraw from Asia but they also don't want to see Japan rearmed and fill the gap that would be perceived to exist by the withdrawal of American power.

So we have the problem: The United States wants to withdraw troops under the Nixon doctrine. We don't want to limit our commitments, however. So how are we going to make up for a reduction in the existing forces that presumably help us implement these commitments?

Chairman PROXMIRE. Let me interrupt. As Chairman of the Foreign Operations Subcommittee of the Appropriations Committee, I have heard the administration witnesses argue that the Nixon doctrine

means that we will withdraw our troops, we will replace our troops with foreign troops equipped and funded by this country.

Mr. COHEN. Precisely. And that is what the Chinese fear specifically in the Japanese case, that we are going to try to have our cake and eat it too by withdrawing American troops, but increasing Japan's Armed Force as well as the armed forces of other countries. And this worries them even more than the presence of American forces. I would think we must not prejudice our relations with Japan, we must make Japan continue to feel secure in Asia, and we must not encourage Japan to go nuclear; I would think that if the Chinese, see us not only withdraw from Vietnam but also from the Philippines, Thailand, South Korea, and other places, will understand that it is in their interest as well as ours that we not rock the boat in Japan, and that we even—although we cannot expect them to pay lipservice to this—maintain our security arrangement with the Japanese. I would hope that as we implement the Nixon doctrine as our new policy toward Peking, we will be moving in close coordination with the Japanese, who I think have been profoundly shaken by Mr. Nixon's overtures toward Peking and who want to go along and coordinate with us. I think we have to distinguish, therefore, the Japanese situation from that of other countries.

Mr. FAIRBANK. If I could amplify just one question about Taiwan—it seems to me that it is of first importance that we pull out American troops and cease these offensive activities. On the other hand, it seems to me that we can easily get a bandwagon psychology or some kind of enthusiasm in this country for a new day with Peking, and mislead ourselves into thinking that our problems can be easily solved by a complete switch. I don't think things can be worked out that way. It takes a lot of time, a lot of work. Talk with Chou is just a beginning. Consequently, I think that we have to keep that defense commitment about Taiwan for some time to come.

I hope that the Taiwan Government will cease to be a rival of Peking. I would hope that sometime they would have sense enough to say that they are merely governing a part of China autonomously, but not as a rival to Peking; they are not claiming all of China.

Chairman PROXMIRE. You would say that it would be wise for us to withdraw our troops and to follow the prescription that the administration seems to propose to increase our foreign military assistance, at least to Taiwan, and to continue it with respect to South Korea and other areas?

Mr. FAIRBANK. I see no point in increasing military assistance, unless this is proved in the public discussions which are brought before you. We need figures; we need comparative figures. And we need to know whether there is a buildup going on, or just a maintenance of a situation. But in particular we need to have some assurance that we do not have offensive activities emanating from Taiwan. If the place can be no longer an offensive threat to the mainland, then the mainland can perhaps tolerate it, and will have to tolerate it for a time. But we cannot expect the mainland people to accept an offensive Taiwan still on their front door. And I would argue that it is possible to have a non-offensive Taiwan situation with our defense commitment if it doesn't have these offensive aspects to it. In other words, it is an element of stability in a transition period for us to continue our treaty with Tai-

wan to defend the island from attack providing we make it plain, and carry it out in practice, that we are not readying it for any offensive action or using it for such.

Mr. WHITING. Mr. Chairman, I would like to go further than Professor Fairbank. I would advocate termination of all military expenditures, direct and indirect, that support the military establishment of the Republic of China, while maintaining our treaty commitment. These expenditures are surplus to any logical analysis of that island's needs against any foreseeable threat. We have spent $2.5 billion, and while I realize that your figure of $18 billion makes a saving of $50 million sound insignificant, to a mere taxpayer $50 million saved is $50 million that might be used in another way. And if our direct and indirect expenditures approximate $50 million then I think that should be eliminated. There is no credible threat from the mainland as shown by the testimony of such renowned military analysts as Col. William Whitson, now with the Rand Corp., and recently retired from the U.S. Army; of Morton Halpern, formerly with DOD/ISA and later the National Security Council, now with the Brookings Institute. If there is no threat, and if we have a very large defense establishment there, why spend a dollar on it? Every dollar spent is going to be unnecessary, if not provocative, whether it is defensive or offensive.

Mr. COHEN. Mr. Chairman, I would like to endorse what Mr. Whiting has said, and simply emphasize not merely the savings in dollars and cents which you obviously have been preoccupied with, but I am sure you are also aware of the profoundly hostile symbolism that our continuance of military aid to Taiwan, to the Republic of China, really represents at a time when it is extremely important for our larger security interest that we genuinely, not just for public relations, but genuinely move toward a new era with Peking. And we cannot expect Peking to entertain our initiatives if we are going to continue any form of military assistance or presence on the island of Taiwan.

Chairman PROXMIRE. Yesterday and today we have had witnesses on the Soviet Union. And they contended that one element in dissuading the Soviet Union from increasing their military commitments was for us not to increase ours—to the extent that we increase ours they tend to match by corresponding increase. Mr. Harriman pointed out, for example, that it was his understanding that in 1964 or 1965 the Russians complained that it was their understanding that we would reduce our military budget, and that they had reduced theirs because of that understanding. We didn't. We increased ours. Of course, the Vietnam war was the principal reason. But we increased ours. And I think that was a very useful observation on their part, because it indicated that in their view at least, to the extent that we do not escalate, they would not.

The reason I give you that background is because I wonder if there is a corersponding reaction on the part of China. I would like to ask you, Mr. Fairbank, as a close student of China's internal development, could you tell us something about the way resources are allocated between civilian and military sectors in that country? Can you describe briefly how the decisionmaking process works and how it differs from ours? Are their tensions similar to those in the Soviet Union as a result of military, consumer and industrial demands for resources? And how are these tensions resolved?

Mr. FAIRBANK. That is a very interesting question. I cannot possibly give you the answer. I don't think anybody in this country knows. If anybody does, he certainly hasn't established it.

Chairman PROXMIRE. If you don't know, no one else does.

Mr. FAIRBANK. One thing you can say about the Chinese situation is, the military are under the control of the so-called civil government. In other words, the civil government is extremely militant, and they call themselves revolutionaries. Chou En-lai has been a commander of troops. Mao Tse-tung a military strategist. They don't make the division between civil and military that we have got. So they don't have this situation that we have where we call in the military, who are given a mission to perform, and they tell us how they are going to do it after they have done it, perhaps. On the contrary, the Chinese leadership decides the military questions as well as the civil questions all in one bag. And that gives them a great advantage over us in many ways. They understand what is going on, and what their position is militarily and otherwise. We have a problem, by giving the military their mission we then abdicate, so that when they have won peace, or whatever they have got, they come back and report.

Chairman PROXMIRE. The trouble we have with that, and I think many people, is that I think they would say that the Chinese civilian leaders really envision themselves as military people in a sense. That is the way many Americans look at it. They feel that Mao, for example, and Chou, and so forth, are primarily viewing their role as one of military revolutionaries and consequently when you say the civilians are in control, it doesn't mean that there is an element that is interested in improving consumer well being as much as there is a group that is determined fanatically to achieve revolution.

Now, I don't say that that view is necessarily correct, but I say that is a very widespread view.

How do you meet that?

Mr. FAIRBANK. First of all, these are people who are dedicated to a revolution at home, and they are stuck with the problem of China, which is an enormous problem such as the world has never seen before, so big, so many people, and how do you maintain a government. Nobody has ever done that before. It is a job that takes all your time and attention. And this in fact has held China back. Maintaining unity is slow work. We can be sure of one thing, that unity of China and the Government of China and the situation in China comes first in their considerations. They do not have a country which is oriented toward the outside. They do not have a country which is dependent upon foreign trade. It has no lifelines abroad. It does not depend on this or that kind of commodity from abroad. There is no staple trade from the southern realm, for instance. They are self-contained; they always have been; they cover enough latitude north and south so that they don't need to expand for any of their goods.

In this situation the Chinese leadership has to keep its eye on the domestic scene. And foreign relations is the framework within which they try to carry on their revolution. The fact that they have the idea of themselves as a model for other countries is an ancient Chinese tradition. They always felt they were a model for nearby countries; and they felt that they were a model for Korea and Vietnam in the early days, and even Japan. And they continue in that rather superior train of thought, they are the center and model.

This does not mean that they have been able to develop the kind of overseas subversion or foreign aid abroad comparable to the Russians or ourselves. They simply don't have the resources, and they haven't put that much into it. The prospect of their doing so in the future is not very great.

Mr. WHITING. Mr. Chairman, could I answer your question a bit?

In terms of the Chinese nuclear story, I think the development of Chinese nuclear weapons is one of the most misperceived and misunderstood stories of this country. We threatened the Chinese with nuclear weapons in the Korean war in the spring of 1953. President Eisenhower and Secretary Dulles sent nuclear threats to Peking in February and May of that year, and forced their acceptance of our terms. In 1957 we deployed, as I indicated in my testimony, nuclear missiles that could fire 600 miles into Chinese territory from Taiwan. It was not until Mao Tse-tung went to Moscow in November of 1957 that he won from the Russians any kind of nuclear weapons assistance program. In 1958 we gave the Nationalists 8-inch howitzers on the island of Quemoy and indicated that they could have nuclear heads in them to wipe out the Chinese batteries on the mainland. The Russians responded to the Chinese demand and for years gave them important ingredients in what has subsequently become an independent nuclear capability.

When we ask why would the Chinese go for nuclear weapons, while it may be the ticket of equality that Professor Cohen has referred to it also has had an important strategic response to our strategic threat. Former Secretary of State Dean Rusk said only a month ago: "I cannot imagine a war with China that would not be nuclear." If the U.S. leadership assumes that nuclear weapons are an option against China, then surely China is going to have to develop some nuclear deterrents capability at least against the bases in the Western Pacific which they can hold hostage against a first strike from us. It may be a crippled response, but it is the only response a self-respecting government would take under the circumstances.

I cannot pretend to know whether there is a military-intelligence complex in Peking that argues with civilian economic analysts as to how to allocate resources. Presumably there is a consensus. We have very little to spend, says any Chinese leadership, but the first need is for defense. I think the remarks of both Mao Tse-tung to Edgar Snow and Chou En-lai to James Reston are honest assessment of their resources and the case for nuclear weapons that they would rather not have. But the nuclear necessity has been forced on them by our activities and to the extent that Secretary Laird looks to Japan and encourages the Japanese to spend more, and we provide offshore procurement or backup for any escalation of arms, there will not be any argument between civilian and military men. The Chinese leadership will feel itself threatened and its first priority will be for defense needs.

Chairman PROXMIRE. I take it that the consensus of this panel is that the extent to which the Chinese commit their resources to defense or to military purposes or to aggression, potential aggression, is very much a function of what we do, to the extent that we seem to threaten them by our activities in Taiwan and the Vietnam war and elsewhere, they react by increasing their military commitments. And it is very

hard for them to do it because they have an extremely limited economy with enormous demand for feeding their people and clothing their people and housing their people, they have so many of them, and of course, this economy is one-twelfth as productive as ours, I understand.

I would like to ask, though, Mr. Cohen, if you would agree with what seems to be the views of Mr. Fairbank and Mr. Whiting, although perhaps I have not stated it accurately, that the military in China is really not a factor in the same way it is in this country. We hear a lot about the military on mainland China. Apparently their military establishment, however, occupies a somewhat different role in the society than does the military in this country. Can you describe that role for us and can you say whether China is in any sense a militaristic nation, is she dominated by military values, do military requirements have the highest priority, is her economy determined by military needs, that is, do the military get what they need first and then what is left is made available to the economy?

Mr. COHEN. Mr. Chairman, first of all, I want to emphasize what I have said earlier and what others I think have said here this morning, that Chinese policy is very often reactive rather than active. We often think that they are taking the initiatives and we are always responding. But actually, the way they see it, it is often the other way, but obviously there is a dynamic process at work here.

Just as the Soviet Union cannot afford to be exclusively concerned with what we spend, but now has to look increasingly to its concern about what China is spending and what Japan will be spending, I think we have got to understand that it is not a bilateral world for the Chinese either, that they will obviously take into account and to some extent respond to reductions in our own military expenditures, but they also have to take into account that on their border they are now confronted by about 800,000 Soviet troops, fully armed for offenses purposes, plus about 200,000 Mongolian troops. And no matter what we do, China would have to maintain or obtain enough capacity to guarantee some modicum of security against that threat, apart from any American threat.

Now, specifically with respect to your question, I would agree with the other witnesses that there is no conventional kind of separation between military and political in China. First of all, the Chinese are at a much less advanced degree of economic development than the United States and the Soviet Union, and therefore functional specialization and departmentalization have reached a lesser degree of attainment there. More important, they have ideologically committed themselves to prevent that kind of departmentalization and specialization. The whole debate they have had about the role of specialist has downgraded the role of specialists, including people who are exclusively military specialists. As you know, their slogan has been, politics commands. Although all of these people come from a civil war background as military leaders, they are not exclusively military leaders; indeed they properly perceive that the failure of Chiang Kai-shek to govern China effectively and to prevail in the civil war was largely due to the fact that he was too exclusively a military leader. Chinese Communists have been truly aware that if you are going to run a society you must deal with politics and that the military must be the tool of implementing what your political goals are internally and externally. I think that is the predominant kind of focus that they have.

Now, with respect to their goals, I think strength at home is critical. We have seen how we can be debilitated and weakened by our Vietnam war. They have no illusions that they must bring up the standard of living of the masses of Chinese people. I think the reporters who recently visited China from this country have made it very clear that, although for the elite in old China there has been obviously a loss of status and a deprivation of privileged position, for the overwhelming masses of people the new regime has done an incredibly good job in bringing up the standard of living. And that cannot be ignored even in the world's most totalitarian internal system.

Now, as to their defense needs, I think there are profound disagreements within the current Chinese elite. That has been clear for some time, and it is becoming clearer; and even the small group that has been running China in recent years seems to be fractured. We have just been reading about Chen Po-ta, who is apparently in bad graces. And there may be others in the same state.

So it is beginning to look increasingly like the A. A. Milne story. Although Chinese leaders agree that China's defense must come before anything else, the question is how to do it; do you defend China through conventional military strategy following, say, the Soviet model? Do you defend China through continued application of guerrilla strategy? Do you assume a primarily defensive posture on the assumption that through giving land and time to the invader, letting him come in, you will eventually take him in? Do you postulate the need for some forward strategy? There are undoubtedly profound disagreements with respect to the question of how much to allocate to nuclear compared to conventional weapons. It is over questions such as these that the Chinese elite has been in disagreement.

So we have to see them as a group that obviously has understandable differences of opinion about questions about which many of us would have differences of opinion. And within the elite there are probably different kinds of alliances in terms of the specifics. We know extremely little, surprisingly little, about how government functions at the top, and also how it functions at the local level.

Chairman PROXMIRE. Both Professor Cohen and Professor Whiting have made serious statements about the U.S. role in the Tibetan revolt. Are you saying, Professor Cohen, that the United States engaged in covert activities, in subversion, in Tibet, and provoked the Chinese response that has been labeled aggression for several years?

Mr. COHEN. Professor Whiting's statement provides more detail on that than my own. But I would agree that what we have done is to help foster—I am not saying we are alone, we obviously had to have some local cooperation within the area—we helped foster in 1959 the revolt of the Khamba tribesmen against the Chinese Government of Tibet. Now, I must say that in the last year there have been repeated news stories, particularly by Dispatch International News Service, I believe it is called, from Laos, describing in detail, naming names, CIA agents there in Laos, who were sending these Lao tribesmen into China. And one of the principal people was named as somebody who had taken part in the 1959 operation against Tibet. Now, when I raised the question of sending Lao tribesmen into China privately with high administration officials they denied this had occurred in recent years and assured me the Central Intelligence Agency said there

was no basis for this. Supposedly, reporters who had to sit around Laos with nothing to do and were obligated to file stories were simply making these things up out of whole cloth. This was a year ago; this was 6 months ago. And these operations from Laos into China were not happening, I was assured repeatedly, on a confidential basis presumably. And yet what do we find? As I mentioned in my statement, all of a sudden the operations that were never going on have now been ceased. I think it is very important that they have ceased, and I am for it, and I hope it will be a continuing policy. But I don't think we can afford to ignore what China knows but the American public has had concealed from it, that we have been engaging in a lot of hanky-panky; we have interfered with the affairs of other countries. Just as we wouldn't like them to do it to us, they don't like to have it done to them. There is in international affairs a reciprocal kind of interaction I hope our new policy toward China will involve a cessation of these kinds of acts. I think that if the Chinese perceive a lesser threat, this may bring about a diminution of their efforts, which haven't been very great by and large, to subvert their neighbors.

Chairman PROXMIRE. Professor Whiting, you have spoken of other covert U.S. activities aimed at mainland China. You say in your statement that "there is a credible case that overt and covert United States-Chinese Nationalist activities have aroused Chinese Communist security concerns, resulting in heightened military deployments toward and across China's borders."

To make such an accusation stick you need more than just a credible case, it seems to me. What you are saying is that we have intentionally provoked the Chinese into enlarging their military capabilities and that we have then used those enlarged capabilities as an excuse for increasing our own military presence and military assistance activities in that part of the world. Where is the proof for this accusation?

Mr. WHITING. I did not say that we did this intentionally to arouse their response, which we would then use to justify our expenditures. I was explaining a causal relationship, not a relationship that was effected by U.S. design. We have aroused them. But I did not say that we intended those responses. In bringing about revolt in Tibet or assisting revolt in Tibet I don't think that any of the persons involved anticipated, for instance, the Sino-Indian war. Nor do I think that those persons that were involved in the covert operations from the offshore islands believed that they would trigger the crisis of 1962.

Chairman PROXMIRE. Yes. But you seem to imply that by taking those actions we certainly should have recognized that this would result in the Chinese increasing their military capability and military reaction.

Mr. WHITING. Sir, as you realize, the Government of the United States is very large; often the left hand and the right hand knoweth not what each other is doing. The operations taken clandestinely by the CIA are certainly not cranked into the annual estimate of the Department of Defense when we look at what the Chinese develop in airfields, air capacity, and military response, and then project that through time 5 years hence, and then say, we must have this kind of capability in the area.

Chairman PROXMIRE. They certainly ought to look at it.

Mr. WHITING. They certainly should. Were it not for the Pentagon papers, I wouldn't feel free to go into it. But I think the memorandum of Brigadier General Lansdale documents the investigation which could have gone much further than I have gone.

Chairman PROXMIRE. I don't want to suggest a conspiratorial action on their part, because I don't believe in conspiracy. I think we have fine people in the Pentagon and they are well motivated, and they are doing their best for our country, and have a very tough, difficult job. But it seems to me by not looking ahead and not considering the consequences of their action, by permitting—by the Pentagon I mean the CIA, too—after all we put it in the budget of the Pentagon—they seem to be creating a situation where it is inevitable that the Chinese would react, would they react militarily, and so they come in and say, now we need a greater defense establishment, we need to move our resources from domestic areas into military areas.

Mr. WHITING. The establishment of the strategic base in 1957, for instances, has never been examined in the context of the Chinese use of their own air force in 1958. This action-reaction syndrome rarely is linked together in the kinds of defense deployment that we have made over the last 15 years in the Western Pacific. And when the Chinese have moved it has either been excused as exaggerated suspicious and unfounded alarms, or as a design that was openly aggressive and initiatory.

Mr. FAIRBANK. Could I add, Mr. Chairman, it seems to me this dynamism in which our military do their jobs, their very best—and as you say, they are not conspirators, they are patriots—and then other parts of the Government do their jobs, their very best—but operating on a pluralistic basis—this is the real center of our dynamic expansion. We have seen so many different elements that are doing their jobs and expanding, including business and missionaries and everybody else, and professors. And as this expansion goes along, it confronts the Chinese with multiheaded sort of hydra, in which first there is this kind of expansion and then that kind; it is not under control; we do not expand under control in this country. And one of the things that we may find in the case of China is a little bit of hope in their system. They do have a greater degree of control, because they do not wish for a pluralistic type of operation either. Their business activity is under a degree of control in foreign trade. And their military and politics go together.

Chairman PROXMIRE. Let me ask you to comment, Mr. Fairbank, on a very interesting observation with respect to China's agricultural problem.

You have given us the picture of a self-contained country that is self-sufficient, that really has looked inward during most of its history and perhaps would like to continue to if it weren't troubled by encroachment from without. That picture may be changing. A recent article in Business Week, I think, which is very provocative, and very interesting. It said this:

> Looking further ahead, however, economists see some fundamental troubles for China. It is hard to see how an adequate rate of growth in agricultural output can be sustained for many more years. Chinese crop yields already are not much behind those in Japan. In the next decade or so the Chinese are likely to be in a serious food bind again. In the past 10 years, fertilizer consumption has risen from 2 million tons to 20 million tons a year. In the next decade it will have to

rise to 50 or 60 million tons a year for output to keep pace with population growth.

The U.S. Agriculture Department estimates that even if Chinese agricultural technology could be brought up to, and keep pace with, that of the United States, which is unlikely—the best it could do over the next 50 years would be to multiply farm output 2½ times. The U.S. Census Bureau estimates that during the same period China's population will triple.

Now, this gives them a very favorable assumption, because they are certainly not going to be able to meet our standard. We are so far ahead of the Soviet Union and China in our agricultural output. The article goes on to state:

Those grim statistics pose the danger that China will founder under the weight of population. To date, Peking's progress on population control has been erratic. It first launched a serious family planning program in 1956. That fell to pieces during the great leap forward. It was revived in 1962, only to bog down again during the cultural revolution.

Under these circumstances, China is certain to remain subject to intense and mounting social and political strain. Stable growth would appear to be difficult to maintain. Some experts, in fact, think that China must change so fast to survive that it is bound to remain in a permanent revolutionary condition, controllable for long only by fanatics.

Mr. FAIRBANK. That is a great dope story, and always at the level of high school debating, where they take a statistic which says a population will triple, and then quote it as a statistic.

Chairman PROXMIRE. Let's forget about the population tripling; let's forget about any likelihood that they can increase their agricultural output as much as it projects here. Let me put it a simpler way.

Is it possible that the problem of producing enough food for their increasing population would put them into a position where they might not be able to do it, and therefore their previous history of internal concern might turn to looking outward, and doing what many countries have done in the past when they need food supplies, that is, to engage in military aggression to get them?

Mr. FAIRBANK. There are several points here. The first is that the Chinese do indeed have a very serious food supply problem, and a population increase which is formidable—while the rate may not be very high, it is such a big base, you get 20 million extra a year, or something like that. The point is, they have shown considerable capacity for reducing the population-increase rates. They now have a program that Japan had, of free abortion clinics, and later age of marriage is being encouraged and most of all, getting rid of the idea that you have to have children for security. This is the first thing that Till Durdin and others going in as correspondents have reported. They have found considerable evidence by talking at random—and this doesn't seem to be a line that they are being fed—that peasants feel that they don't need large families as they used to for old-age insurance, because they do have a social welfare system. It is very modest, of course, but it will remove the incentive for heavy population production.

A second point is that even with the best effort to reduce population growth, and to build up the food supply, they are going to have a tough time. And whether they are going to make it is indeed a question.

However, when we look at this from the historical perspective, I would suggest that those countries that have tried to expand for food supply have seldom solved their population problem. You cannot export your extra people. You have to have them where they are.

You couldn't begin to export 20 million people a year, of course. As you develop at home you may want more trade abroad, but the implication that you have to expand militarily is a non sequitur. It is an idea that people have had. The Japanese, for example, when they had 70 million at home, felt that they were stranded and had to expand. Now they have 100 million at home, and they are expanding by trade, but not militarily.

Chairman PROXMIRE. I think I undoubtedly went too far in the future on this. We can only limit ourselves—it seems to me we can only make real progress that is helpful and useful—at least I can, as a Senator, if I limit my questioning to the immediate future. I have so much to learn in this area, so rather than to project 10 or 15 or 20 years ahead, let's confine our questioning to the immediate future.

Let me move into this.

Events have moved so swiftly in Asia in the past few weeks and in the past few days that it is hardly possible to keep up with them. But if anyone can clear up some of the confusion it is you.

First, what is the significance of the recent discussion between Washington and Peking and of President Nixon's announced intentions to visit China next year? This is a very broad question so perhaps we can restrict the response to the significance in terms of our relations with China. Are relations between us really easing after all these years? Do you expect to see renewed trade and, if so, how large is that trade likely to grow?

Mr. FAIRBANK. I don't think the trade is going to grow very greatly. I think the Chinese will remain diversified in their land and not depend on trade with us if they can possibly avoid it. But I think both countries are convinced that they need contact with each other; and it is mainly because we see ourselves moving into a multipower world. The two-superpower confrontation age, I think, has passed; it is now multipower. The Japanese are so strong, that is a factor, and Europe is unifying and that is a factor. And China wants to come into the world. That makes a five-power situation. And it is possible that you could get a concentration of power and not a superpower domination as so many countries fear.

Chairman PROXMIRE. You wanted to comment, Mr. Cohen?

Mr. COHEN. I wanted to respond to your last three questions, Mr. Chairman, but I didn't want to interrupt you.

Chairman PROXMIRE. I saw you keeping notes.

Mr. COHEN. Just dealing briefly with this last question, I would agree with Professor Fairbanks, our immediate interest in trade will be rather small. There has been a study published by the National Committee on United States-China Relations that tries to go into this in great detail. The Chinese have said, of course, that unless there is a normalization of relations between the United States and China there will be no direct trade between the two countries. One doesn't know whether they will continue—I hope they won't—to adhere to that line, because I think that direct trade will enhance businessmen's contacts and interest in China and will have an enlightened result on the evolution of our China policy. But certainly indirect trade is now beginning at a very modest level, and will continue with the help of the administration's welcome change in China policy.

I think generally the Chinese, if one can credit Mr. Reston's extensive interview with Chou En-lai, published yesterday in the Times, are

taking a fairly mature, relaxed posture here, recognizing that we cannot change overnight, but indicating that their major goals will be ones that they will continue to want to attain; that we have been in the wrong by and large, and we are going ot have to do some changing. I think that is going to be the hardest lesson to make the American people aware of, because there is a good deal of need for change in our policy, and we have got to be much more forthcoming than even perhaps the administration is yet aware.

Now, I would think that we also have a very high priority interest in talking with them about nuclear weapons. I think we have got to be responsive to their recent suggestions, not only with respect to my previously mentioned reference to a no-first-use pledge, but to the problem of how do you control nuclear weapons. They claim they don't want to be involved in a discussion with only the nuclear powers. Obviously a discussion among 120- or 130-odd states, many of which would be minuscule, might not be the best forum in which to begin a discussion of nuclear controls. But we ought to be generous, I think, in coming back with a counteroffer. We have a very high priority interest in this subject.

Chairman PROXMIRE. Before you leave that, how about China's nuclear capability, when she becomes a full-fledged nuclear power?

Mr. COHEN. Well, in the Soviet sense, I don't think we can anticipate when China will begin to be anything like a full-fledged nuclear power. But we are anticipating, as my statement indicates, that, as the 1970's unfold, China will eventually be deploying ICBM's. And even though this may be a relatively small capability, it is going to pose increasing concern to us.

But there are many other reasons, of course, for wanting Chinese cooperation. And I think the environmental-control problem is a more longrun, but equally pressing, problem.

Chairman PROXMIRE. You have referred to a no-first-use pledge, and Mr. Whiting has referred, I think, to nuclear free zones. How can we do this with the Chinese?

We worked out very carefully our agreement with the Soviet Union on the test ban. And that, of course, is subject to inspection, and to determination on a unilateral basis. But a no-first-use pledge, what would it really mean? How can it be enforced?

Mr. COHEN. It will be pledged by each of the nuclear powers that it will never be the first to use nuclear weapons under any circumstances. To China obviously it has advantages. They have not reached our degree of attainment of nuclear capability. They would like to feel secure against—particularly not from the United States now, I should point out, but from the Soviet Union—a first strike that would demolish, for example, many of their own nuclear installations in northwest China. It would mean that, no matter what the threat, no side would use nuclear weapons, that war would be conducted at a conventional level.

Chairman PROXMIRE. What is the quid pro quo? What does the United States get out of it?

Mr. COHEN. The question would be, first of all, we could link any number of things that we are interested in to what the Chinese are obviously interested in——

Chairman PROXMIRE. Such as——

Mr. COHEN. Well, for example, we could ask for a reduction in conventional Chinese forces, since we would see that we would be at a disadvantage if we gave up our nuclear strength while we are pulling our conventional forces out of Asia.

And if we continue to be concerned about Chinese border——

Chairman PROXMIRE. How do we enforce that?

Mr. COHEN. There would be, for example, some opportunity, I would assume, if not directly, by U.S. observation to verify the allocation of Chinese expenditures, perhaps through other visitors, through exchanges of information, and we also would have, of course, continuing observation of new Chinese installations of a military nature through our satellites that are going above Chinese airspace. And we have a whole panoply of intelligence gathering methods apart from any formal method we might be able to agree with the Chinese on in terms of inspection and control of any agreement.

So I don't think we can despair of our ability to judge that they are making gross changes according to their commitments in order to bring about some forms of arms control and disarmament.

Chairman PROXMIRE. Do you think that that might be a part of the package? Bringing greater stability in general to the Far East.

Mr. COHEN. I think it would be very welcome.

Chairman PROXMIRE. If they reduced their forces, presumably that would help us with the Japanese?

Mr. COHEN. One would think so. And certainly the Japanese, not being nuclear, and very vulnerable, because of their confined space on the island, would welcome seeing China bound to a no-first-use pledge with respect to nuclear weapons. So I think there is a lot to be talked about and negotiated here. And I think we ought to respond in a serious way on that question.

Now, with respect to the other problems, I don't think we should let the record stand as it now does to suggest that because none of us believes in a conspiratorial theory, the U.S. Government runs a foreign policy through multiple arms with no checking or coordination at the top that would help to restrain perhaps covert actions by one group that might be inconsistent with innocent actions or estimates by another group.

If the Pentagon papers tell us anything, they make it clear that, although this kind of uncontrolled hydra image may represent reality to some extent, we shouldn't be naive—they also show that at the very highest levels of government there has been conscious programing and scheduling of covert operations and linking them to the public aspects of our operations. That is what the meaning of all the Bundy, McNamara, McNaughton, and other memoranda.

They talk about doing these covert things in foreign operations and blending covert and overt operations. This is really the way international operations have been planned. I think there is more policy control and sophistication and direction using covert as well as other means than we perhaps care to realize. That seems to me to be the lesson of the Pentagon papers.

Chairman PROXMIRE. Would you tie that in with the special question which was related to the situation in Tibet, that we deliberately acted to provoke the situation in Tibet against the People's Republic so that they in turn would increase their miiltary force, so that we

in turn could they say, "Look, they increased their military force, we have got to increase ours," and therefore the Pentagon gets a bigger piece of the pie, would you go that far?

Mr. COHEN. That goes to motivation and intent, and as Mr. Whiting said, different decisionmakers and people who feed inputs——

Chairman PROXMIRE. Then you go back to the difficulty of pluralism rather than the conspiratorial theory.

Mr. COHEN. Certainly pluralistic intent. I don't think that there aren't some people who don't have that intent. One shouldn't assume that the conspirator always conspires for unpatriotic reasons.

Chairman PROXMIRE. No; we had a specific question, was this related to the Pentagon's efforts to get bigger military appropriations, is this the reason they did this?

Mr. COHEN. We will have to await a more vigorous congressional inquiry into that incident than we now have.

Chairman PROXMIRE. At any rate, you wouldn't dismiss that?

Mr. COHEN. I wouldn't dismiss it. I do know from other operations that we conducted against China that people at a higher level have been alerted that we are conducting covert operations against China, they have explicitly lied in public about it, and some of these operations have been revealed. So it wouldn't shock me at all if that happened to be the case here. And what was the Bay of Pigs if not a covert operation that was OK'd and approved at the highest level? We know this goes on all the time.

Chairman PROXMIRE. I certainly don't argue, anybody in the panel or anybody who has studied our history must admit that we do engage in covert operations. That is what the CIA is all about, as I understand it. And many people feel that we have to, including this Senator, we have to engage in covert operations often. What I am saying, however, is that motivation is very important. We should not engage in covert operations in order for the Pentagon to get a bigger appropriation, so they can create a situation where the country will respond by increasing its military force, so that we in turn will have to give them more of our resources. I think that is quite different than a covert operation to achieve some kind of more specific and direct purpose, which I may or may not support.

Mr. COHEN. Let me go on to the last point, Mr. Chairman. It seemed to me Professor Fairbank was quite accurate in depicting the measures the Chinese have taken to get birth control under control, if you will. I think we should realize that because of China's internal system, now reinforced by the impact if the Cultural Revolution, that China can implement whatever measures it deems appropriate much more effectively and rapidly than, say, India can, facing a comparable kind of economic and political and social problem. And the Chinese do appear to be making some progress in influencing their people's judgments about the variety of ways that should be used to achieve birth control.

Also I think Chinese agriculture seems to be on the road to improvement again after a period of difficulty. Some of our reporters in China seem to be a little euphoric about it. They talk about China being the only Communist country to have licked the agriculture problem. That may be a little too strong, even if it is cast in relative Communist state comparisons. Still I think progress is being made.

But I think one of the motivations of a long run nature that China may have for coming in to the United Nations, for cooperating in other ways in economic matters, is that China wants to improve its fertilizer, China wants to improve its rice, and I think China may even need capital and technical aid, although initially this might seem unattractive to Peking.

In 1960 one of our leading economists on Chinese affairs predicted that the then current Chinese pattern of 80 percent trade with the Soviet bloc and only 20 percent with the rest of the world would increasingly favor the Soviet bloc. Yet we have seen within 10 years how the pattern has absolutely reversed, and now it is 80 percent with the non-Communist world and 20 percent with the Communist world. Similarly, I think we shouldn't underestimate China's potential interest in trying to attain a higher level of economic development through forms of cooperation, perhaps even with the United States, if only on a multilateral basis. The Chinese have real incentives to cooperate with us in order to meet this very problem that I referred to.

Chairman PROXMIRE. Mr. Whiting, developments in China are also having a severe impact in the Soviet Union——

Mr. WHITING. Could I answer the question you raised earlier?

Chairman PROXMIRE. Yes. I am sorry.

Mr. WHITING. You asked about trade with China and the prospects and implications of the President's trip to Peking. Could I address that question briefly?

I think that beyond trade one must look at the development prospects of the mainland. They have taken some unusual steps with different countries in the past. They have recently informed the Canadians that they will permit, indeed they will invite, Canadian entrepreneurs to come to China to install plant and factory equipment. In 1965–66 they engaged in a long negotiation with the West Europe power consortium known as DENAG for a multibillion dollar petrochemical complex in northwest China. I see no reason why we should concentrate solely on China's capability in trade for estimating the economic convergence of interests between our country and China. Indeed, turnkey projects, as they are known, are most likely to be wanted by the People's Republic. This, of course, will require certain credit facilities, probably Export-Import Bank approval. We wonder why the Chinese suspect our design on Taiwan. Yet at the same time that the President is planning to go to Peking, the Export-Import Bank has approved a $93.5 million loan, approved by the Atomic Energy Commission, for the Republic of China to have a nuclear powerplant. Now, perhaps Peking thinks we are going to transfer that $93.5 million to Peking when it takes over Taiwan, but more likely they think we forsee retraining Taiwan for a long time to come. In a sense, once again, this is the left hand not knowing what the right hand doeth. If we are talking about truck facilities in the Soviet Union while we know that the Soviet Union poses a threat to the security of China, and indeed is massing troops on China's borders, then should we not think about the Export-Import Bank's facilitating a truck construction plant in the Chinese People's Republic as a defense need against the Soviet Union?

We have another possibility in the economic realm. The Chinese have discovered oil reserves that are beyond their foreseeable needs

for the balance of the century, given the state of their economy. Japan's need for oil is too well documented to require elaboration here. But Japan's oil needs must be serviced over long, vulnerable sealanes and costly lines of transportation to the precarious Middle East. It is quite conceivable that compatible interest between Chinese economic oil development and Japanese economic development, linked to American prospecting and refining capital and producing equipment invested in China, with Chinese control, of course, would show a new nexus of convergent interest in the northeast area, instead of our constantly looking at it in bilateral terms, or in confrontation terms.

All of these are prospects opened up by the President's trip.

Chairman PROXMIRE. Along that line, of course, developments in China are also having a severe impact in the Soviet Union. We are all aware of the Soviet-Sino dispute and the friction that exists along their common border. China also seems to be deeply concerned over a possible preemptive Russian strike against China's nuclear facilities. How serious is the dispute and is there a real possibility of a preemptive strike in your view?

Mr. WHITING. I think the possibility of a Soviet preventive strike against China's nuclear facilities was raised by Moscow through its own media, and by Victor Louis, a Soviet supported journalist, in 1969. So we do not need to credit this as a Chinese fantasy; it is a real possibility, and it has been raised over the last 5 years. I would not put a probability estimate on it. That is obviously determined by men in Moscow and the shifting balance of estimates among those men in Moscow as to what the risks are. I personally think the peak risk was in 1969, and that it has diminished but not disappeared since that time.

It is because of this Soviet threat that I would disagree with Professor Cohen's suggested development on Chinese conventional force level. I think Chinese conventional force levels are much more a function of the Soviet border threat, the subversive threat that the Soviets have manifested in Sinkiang and in Mongolia, than they are a function of the external relations of the United States. I would say that any arms agreement is more likely in the future development of nuclear weapons rather than in existing force levels.

We cannot negotiate the Soviet-Chinese relationship. Only indirectly is that going to be a function of our relationship with China. I think this administration is not exploiting that situation, but that it is certainly justified in showing to Moscow that it does not want a war between Russia and China.

What will develop between Moscow and Peking after the death of Mao Tse-tung is another question that is implicit in any consideration. After Mao leaves the scene—and that may be soon or in the near future—there are obviously going to be those in Moscow or Peking who will seek to revive the old alliance. I do not necessarily fear a rapprochement between Moscow and Peking and I would welcome it over the prospect of Sino-Soviet war.

Chairman PROXMIRE. I will call on Mr. Cohen; I know he wants to respond. But the prospect is for rather remarkable personality changes in China, notably Mao, but virtually all of the leaders, and whether that will have a significant effect. We can expect a change, I think, in the 10 or 15 years with the entire top layer of leadership.

Mr. WHITING. I think it is important that President Nixon succeed in his endeavor now while there is a secure and authoritative leadership manifested in the personalities of Mao and Chou En-lai. I think that any residual problems that we leave from our past record with China for a successor regime to cope with might find a far less flexible situation. Certainly a man who is in second or third after Mao Tse-tung will have many political problems at home to contend with. And many of the issues that Mao has put out for the agenda may seem curious to a second or third step successor in this leadership. I don't want to say that after Mao goes China will be terribly insecure. But I certainly think that there is a problem there that is perhaps one of the explanations for this overweening cult of Mao that we now see. If the cult of Mao has grown in the past 4 years, it may be a function of their sensed belief that a successor government will have to call upon Mao's thoughts as a first claim to legitimacy.

As you know, there has been no National Peoples Congress in years, there is no operative Constitution, in fact there is not even an official chief of state in that government today. Chou En-lai has carried on a good deal of activity as Premier of necessity because there is no one else in the governmental position to whom he can delegate these responsibilities.

I would not predict the men or the section of that elite that will emerge over the next decade. But I would say that if a negotiatory record is laid down successfully by Mao and Chou, it will certainly survive this succession to the extent that we make it a credible and confident basis of our relationship.

Chairman PROXMIRE. Mr. Cohen.

Mr. COHEN. Could I say that what Professor Whiting has correctly just said about the importance of striking while the iron is hot—while China has a secure, mature leadership—could equally well perhaps be applied to our own domestic situation. The Nixon administration seems to be admirably equipped now to make changes in our China policy, more so than any successor, perhaps because the successor too will have a domestic constituency to worry about, and it may not feel secure enough to act. Perhaps Mr. Nixon can face down the right wings of both parties that are now applying increasing pressure against his China intentions. But we can't be sure that any successor administration, particularly of the Democratic side, would be able in the light of past experience to muster a similar kind of counterpressure.

Now, I apparently failed to make myself clear with respect to your question about a no-first-use pledge as to what we might get in return from the Chinese. I was addressing myself to what I brought up in my earlier discussion about the multilateral no-first-use pledge that the Chinese have now suggested. As I said earlier, we can't expect any bilateral arms control response from the Chinese, because they have got the Russians to worry about.

So we have got to have a multilateral situation here. And I would quite agree with Professor Whiting's views. I don't think there is any difficulty at all on that point.

Now, as to the preemptive strike, I think the Chinese feel it is a genuine threat to China. If you will recall, Mr. Chairman, there was a period when this country debated very seriously having a national shelter building program to protect against a contemplated nuclear

attack. We were are still are, I think, the richest country in the world. And yet we abandoned that program because of its psychological implications and because of the misallocation of resources for even a very rich country. China has undertaken a national urban shelter building program; it has been going on for some time. China is a very poor country. This is a misallocation of its resources unless there is a credible basis for China to fear the possibility of a nuclear strike by the Soviet Union. So I think the Chinese certainly are taking it very seriously. It is not something they are making out of whole cloth.

And I might say that part of the significance of the treaty between India and the Soviet Union that has just been concluded may be that it will offer the Soviets a pretext for acting against China. If, for example, China should support Pakistan too vigorously in any Pakistan-India clash. I think we might find the Soviet Union champing at the bit to exercise some influence over the Chinese by threatening to come to India's aid in the most demonstrable way. The situation is beginning to look a little like that in 1914 of Serbia and Austria-Hungary, each backed by its own prominent, more powerful allies. And this is a serious problem.

Chairman PROXMIRE. This morning's paper carries a report of what is described as an "authoritative article in Pravda" expressing concern that an anti-Soviet coalition might develop out of American-Chinese contacts. Is this realistic, Professor Fairbank?

Mr. FAIRBANK. I would read this as the kind of counterpressure that we are getting from all these countries. The Soviets in a polite way are expressing their concern lest we are conspiring against them. The Japanese have been expressing again concern about our not consulting them over China. I am not sure there is anything more to it than that. It is political pressure.

Mr. WHITING. Mr. Chairman, may I suggest that you use the words "preventive war attack" rather than "preemptive strike" in referring to what might be in the Soviet mind, because I would not credit the Soviet Union with believing that preemption, which properly defined means getting your blow in before the other blows come at you, is what this kind of an attack would be all about. A preventive war means removing any future capability of raising a threat. And I think that they have contemplated striking so long in advance of a real Chinese nuclear capability that it could only be described as a preventive war threat. And if the French expression honi suit qui mal y pense, does apply, if the Russians have been thinking about doing any harm to China, then one who would bolster China's defense is by their definition anti-Soviet because he is thwarting Soviet designs to blackmail or brutally punish China.

Chairman PROXMIRE. Looking at it from the Soviet standpoint, two other great powers in the world, the United States and China, are going to have a détente. In the kind of relationship of assistance of the kind you describe, we send our businessmen there to help them reconstruct their industry.

Mr. WHITING. I would look at this at two levels. If the Soviet Union had not undertaken all of the military buildup effort from 1965 on, at a time when there was no credible Chinese threat to the Soviet Union, then one could say that something is beginning at our initiative or Chinese initiative which could justly be described as anti-Soviet. But

I think that investment in the military encirclement of China on the northeast and northwest frontiers makes this a polemical, not a practical, charges.

But second, in terms of anti-Soviet being equated as competition for influence, that is what world politics are all about. And if the Soviet Union has an Embassy in Peking with an Ambassador and trade relations, obviously parity is the minimum the United States should demand without being called anti-Soviet.

I think in the longer excerpt, Mr. Abatoff correctly discerned several kinds of groups and several kinds of trends in American policy. And he doesn't single out this one as the dominant element. Indeed, I think his is a very sophisticated rebuttal to cruder Soviet attacks to our policy, which have come earlier but which have only talked about the anti-Soviet implications. And I am sure that as President Nixon and Secretary Rogers carry out their move to Peking, they are very mindful of the need in SALT and the Middle East and elsewhere to assure the Russians where it is reasonable, but not where it is unreasonable.

Chairman PROXMIRE. Let me just try to get a little balance in this by asking Mr. Cohen this.

I think a lot of myths about China are being dispelled these days, and that is bound to be a healthy thing. But I wonder if the pendulum may swing too far. Perhaps China is not the violence-prone nation some have believed her to be. But how do you explain China's role in the Pakistani civil war? Here is a nation that claims to be dedicated to revolutionary movements against oppressive colonial-type regimes. The East Pakistanis rebel against the more powerful and repressive West; the West ruthlessly crushes the rebellion, murders hundreds of thousands of her people, and causes millions to flee the country, if we are to believe the press reports, and China supports West Pakistan; how do you explain this?

Mr. COHEN. Senator, there are undoubtedly a number of threads here. But I would think one thing to bear in mind with respect to China's policy toward Pakistan is, the Chinese, of course, are dedicated to wars of national liberation and self-determination movements, but they are even more dedicated to national unification, to China's territorial integrity. And I think the Chinese are very careful, they are extraordinarily sensitive, on this Pakistan question. They are very careful not to act in such a way as to justify retrospectively the Tibetan revolt against China. Moreover, prospectively they realize there may be a need on China's part to use force, if other means should fail in the distant future against Taiwan.

They don't want to be in the position of witnessing and helping the Balkanization of Asia through supporting self-determination movements that would destroy Pakistan's national unity, China's national unity, and perhaps that of other countries. So I think they are being very careful, apart from other reasons that they have. They are also playing a conventional kind of balance-of-power politics here.

Chairman PROXMIRE. Maybe to our eyes the situation is more horrifying than it is to the eyes of the Chinese. And they may be more used to or capable of tolerating the kind of violence we read about. But we have the incredible atrocities, and as I say, the wholesale murder of hundreds of thousands of people, genocide.

Mr. COHEN. It is a shocking thing——

Chairman PROXMIRE. To support that, it seems to me, is beyond—I would agree that the breakup of Pakistan would be unfortunate—it would seem to me that they can take a position that would bring as much pressure to bear on west Pakistanis to desist in this kind of extermination without at the same time supporting a separation movement.

Mr. FAIRBANK. Sir, they are not giving arms to the Pakistani Government, which is killing these people.

Chairman PROXMIRE. That is true. And we certainly are, according to everything we can determine, although the Defense Department has denied that allegation to me when Secretary Laird came up to testify before my subcommittee. But I think the documentation is pretty clear on it.

Mr. COHEN. We have got to be aware of China's extraordinary sensitivity to its borders, to its territorial integrity. They have lived through a so-called century of humiliation in which through one pretext or means or another, imperialist power has sought to detach various portions of China. The Chinese Communist revolution really came to power on a platform of restoring China's self-respect, its equality, and its territorial integrity. Chinese leaders are not going to be beguiled by slogans of self-determination, they are not even going to blink at tremendous, horrendous slaughter within neighboring states that are going through their own convulsions, because they fear interference by other states.

And that is the principle that takes priority over other principles.

Chairman PROXMIRE. How does the separation of east Pakistan threaten China?

Mr. COHEN. It threatens China, as I have indicated, by precedent, by analogy, because of the Tibet problem. You remember how the world was terribly upset when China put down by force the revolt in Tibet. The world is very concerned about what would happen with respect to Taiwan if the United States should remove its defense commitment. It is the precedent that east Pakistan would set that worries China. I don't think there is any direct security interest that China has in the continued integration of Pakistan.

Chairman PROXMIRE. This isn't China's territory as Tibet may have been. East Pakistan, it seems to me, if separated, would represent a lesser threat.

Mr. COHEN. Exactly. But China is not going to be in the position, as I tried to say earlier, of supporting the breakup of a national entity according to the principle of self-determination, because they see that as justifying a call for Tibet separating from China and Taiwan separating from China.

We use self-determination highly selectively, as we have in South Vietnam to argue for our intervention there. I think, as the Chinese see it, that as the Chiang Kai-shek forces lose ground in this country, Chiang's supporters will shift their rhetoric from supporting the Republic of China to supporting self-determination for the people on Taiwan. We haven't called for self-determination in the years we have supported the Chiang Kai-shek regime because it would embarrass that regime, which isn't based on self-determination. But I know we are going to have increasing interest in self-determination.

The Chinese have priorities just as we do. And No. 1 for them is China's territorial integrity.

Mr. WHITING. I would like to place this in a different perspective. I think that the "pactitis" of John Foster Dulles aroused in Peking the——

Chairman PROXMIRE. Pactitis? You are not talking about Pakistan.

Mr. WHITING. Pactitis, the use of pacts in foreign relations as was done in the mid-1950's; when confronted with a problem, you solved it with a pact.

We formed SEATO and Cento. We used Pakistan for a massive intelligence effort directed against China and the Soviet Union from the facilities at Peshawar. As early as 1954 and 1955 China had to respond directly and conventionally, at a time when they were not in hostile array against India, to see how that alliance could be eroded. Chou En-lai made approaches to Thailand at the Bandung Conference in 1955. The approaches to Pakistan were a little more successful because of Kashmir and because of India. The Chinese tried to ride both at the same time, the friendship to India and the friendship to Pakistan.

Ultimately their border dispute with India came up and they became increasingly dependent upon the pact against Indians.

But the emergence of their Pak alliance as a tacit one was to counter our explicit alliance with Pakistan. Once the Paks removed our intelligence facility at Peshawar, the Chinese could see positive gains from further cooperation with the West Pakistani Government.

As an East Pakistan rebellion emerges, the Chinese choice between Realpolitik and a total revolutionary policy is a very hard one. But at this time and under the circumstances that the Chinese face after the cultural revolution, they seem to be going for Realpolitik.

I am amused in a sense by your question, because in the past the nightmare that Indian policy has projected would be a Chinese separation of East Pakistan, and alliance there with the West Bengal Communist Party, one of the stronger forces, thereby separating that portion of the subcontinent with Assam, the Naolite rebellion, and so forth, cutting India down to a small part of what it is now. However, that is not what occurred. Instead, Peking made the choice, as appears to have been the choice in this country, of Realpolitik, supporting the Pakistani Government implicitly or explicitly in what is genocide.

But I place it in this earlier context of an alliance which we forced on Peking by the formation of Cento and SEATO.

Chairman PROXMIRE. I realize that the hour is late. But I have a few more questions.

Another extremely important new development is the recent pact between the Soviet Union and India. This too seems to have been brought about, in some measure, by events in China. China, of course, has sided with West Pakistan in the dispute with East Pakistan and India, as we have already mentioned. Some rather hard lines seem to be forming here, with Russia and India on one side and Pakistan and China on the other.

We have taken no formal position but we have been sending arms to West Pakistan and our Government seems more friendly to it than to India. What is the significance of the Soviet-India treaty and what do you think the United States would do if hostilities broke out? And

by the way, do you think persons in this country might some day be asking, "Who lost India?"

Mr. FAIRBANK. No; I don't think so. We don't have the same sentiment about India that we have about China. Somehow it is a different country.

I think this pact from the Indian side seems to be taken not as a very heavily military alliance. It isn't in the military alliance terms that are customary. And the Indians may well feel that this is just friendship, and the Russians are helping. In other words, it does not make American aid and American relations any less desirable or feasible. And so while it may be a straw in the wind that the Soviets are moving into the Indian Ocean——

Chairman PROXMIRE. It might make it harder for Congress to approve.

Mr. FAIRBANK. Well, the domestic politics of India—the Soviets obviously want to play in, and I don't think we want to get into that. But this I don't think is a very serious matter that we should exercise ourselves about. It is part of a general trend of the Russian movement in that area, which I think we have to accept.

Mr. WHITING. There is, sir, an implicit contradiction between this pact and the treaty of mutual alliance and friendship concluded with the Peoples Republic of China in 1950. In article 9, the Soviet Union has pledged that it will not give military assistance to any government which is in hostilities with the Indian Government. The Chinese have already had hostilities with the Indian Government in 1959, 1962, and 1965. If I read that article correctly, this formerly precludes the Soviet Union from assisting the Peoples Republic of China under any circumstances that are hostile. It does not say defensive or offensive, or who is attacking whom; it simply precludes military assistance to a government which is in hostilities with the other signatory. I think that is going to be read in Peking with much more attention than the question that we have raised out of our concerns over what will happen in a Pak-India war.

Chairman PROXMIRE. It is a very, very interesting observation; I completely missed that.

Mr. WHITING. There is another observation I would like to make. In the excellent journal by our former Ambassador to India, John Kenneth Galbraith, and in the book by Neville Maxwell about the Indian-China war, we see that in 1962 the U.S. Government moved precariously close to intervention with military action on behalf of India in what was a border war, one which, I believe, the Indians brought upon themselves, without reference to the Congress of the United States and under no mutual agreement or commitment for assistance.

I think this pattern of elbowing and easing our way into a military situation without reference to the Congress and without reference to legal obligations should be ended. I know there are various pieces of legislation on this introduced in the Congress. The precedents go beyond the Vietnam war. We should certainly nail this one down before we slip or slide any further into what might be a holocaust on the subcontinent.

Chairman PROXMIRE. Let me ask you gentlemen, we have been discussing what might be labeled the coming realinement in Asia. What will the economic consequences of all this be for the United States?

As you know we have a tremendous economic investment in Asia. Our trade with Japan is huge and our investments there are very great. We have substantial economic interests in the Philippines, in Indonesia, and throughout Asia. What lies in store for these as a result of what is happening politically and militarily?

Mr. Cohen.

Mr. COHEN. You have already indicated that we should be in a position substantially to cut down our military expenditures, hopefully not just for combat troops but for military expense for many Asian regimes.

Chairman PROXMIRE. I asked that question, and I think the gist of what you gentlemen told us suggests that.

Mr. COHEN. I take it your qeustion now asks also about the future of American private investment in Asia. This gives me a chance to comment on the vision of the future and all the wonders that could be, Professor Whiting pointed out, if we could get some cooperation between American private, if not public, sources, and the governments of East Asia on the exploitation of these recently discovered resources of oil in the East China and the South China Sea. But I would think that the prospects for that in the near future are extremely dim. We can't really envisage the People's Republic of China cooperating with the Republic of China or with South Korea or with South Vietnam in some joint venture with the Japanese to exploit these resources.

Mr. WHITING. May I interrupt? I was only referring to continental mainland reserves, not offshore reserves.

Mr. COHEN. The offshore reserves may be one of the vastest untapped resources in the world. But they can't be effectively exploited, I think, until we have worked out at least whether it is going to be Peking or Taipei that has jurisdiction, for example, to award contracts to American corporations or Japanese corporations. Indeed, Peking's concern at efforts along these lines by the Japanese, the South Koreans and the people on Taiwan to begin exploiting these resources have properly led us to be extremely cautious about their going ahead, because that could lead to actual shooting incidents, just as disputes now between, say, the Philippines and both Chinese governments are leading to minor incidents off other islands in South China Sea.

So that is a problem. But in the long run let's hope that there can be some economic cooperation. I have already indicated that we ought to be working toward other forms of economic cooperation, such as the Canadian example Professor Whiting has referred to. By the way, we have had British and West German firms setting up plants in China. We would hope that Americans would take part in that. Eventually American corporations should be able to profit one way or another, although we are not going to see China be very open in terms of permitting foreign corporations to do business in China.

It will take quite sometimes before China ever gets to the stage that the Soviet Union is now at in that respect. Other countries in Asia may become increasingly nationalistic with Chinese support. The Chinese have been very strong in supporting Latin American efforts to curb U.S. investment, not merely efforts by governments such at the Allende government, but also those of Peru and other

Latin American countries to take control of their own resources. And it may be, for example, that in Thailand or the Philippines, as they veer away from an ardently anti-Communist posture and very close relations exclusively with us, we will see increasing pressure to threaten American business interests there.

But of course we have got to recognize that in a changing world each country has a right to determine the allocation of its resources, and the best we can hope for is some continuing reasonableness in terms of the manner in which that is to be done.

Chairman PROXMIRE. Mr. Fairbank, I would like to ask you to pursue this.

Former Ambassador Reischauer pointed out recently that if the Japanese continue to expand their economy in the next 30 years as they have in the last 10, by the year 2000 they will have a gross national product of $6 trillion, in other words, in constant dollars it will be six times as big as our present GNP. Now, I suppose there are many limiting factors, of course. But nevertheless, this is an economic giant, this is the economic giant of Asia. As I say, we have many investments, and we have a great trade with Japan. What effects will this rapproachment with China have on our investments in Japan and elsewhere?

Mr. FAIRBANK. We face the problem that the Japanese economy can be quite a substitute for all our economic activity. And so we have competition. It seems to me for the long run vis-a-vis China the only hope that we have is to get under multilateral or international auspices or regional auspices for economic activity to a much greater degree than heretofore.

If contracts now conducted by American corporations could be funneled through an international body, regional committees, or multination commissions, that kind of thing, then there might be less onus of imperialist capital expansion, as they call it in China. They see a great menace in the Japanese economy, because it builds up interests abroad, which then becomes endangered and are followed by military support, probably. They accuse us of this same kind of thing. Now, in both cases I think the American and the Japanese are not following really a Leninist book, where the economic growth leads to military expansion, rather it is more complicated than that. But there is a psychology of expansion in both cases. We have the problem, in other words, of mediating, moderating our own expansion and the Japanese expansion at the same time. We are part of the same economy in a way. The Chinese face this from the outside. And it is a very formidable prospect to them. I would think that institutional development is the first thing that we ought to put our minds to.

The channels through which this kind of aid can move internationally certainly can be worked on, and can be improved.

Chairman PROXMIRE. Mr. Whiting, would you like to comment on the effect of our relationship, budding and developing relationship, that we all hope is going to develop constructively and peacefully with China, our investments elsewhere and economic commitments elsewhere?

Mr. WHITING. I think that the prospect of U.S. investments in Asia is going to be a depressing one, if we see ourselves in competition with the Japanese. I think it is clear that our entire price-wage struc-

ture and the value of the dollar in this country is a problem first of priority, and if it is not resolved within the very near future, we will simply not be in a position to compete abroad. The confidence and the cost of dealing with the United States, as opposed to dealing with Japan will make us uncompetitive. I think while this administration has claimed to have solutions, they have at least not been evident to my eyes. And I am not an economist, and I cannot perceive how much of a crisis lies ahead for how long. But I would be very rash to make projections until I am confident that the internal economic crisis of the United States is going to be solved.

If there are ways in which the mutual needs of China and Japan and the U.S. community of investors can develop in Northeast Asia, either with underwriting of the World Bank, the Asian Development Bank, or with other U.N. institutions, this too will have to come after the resolution of our political problems with the People's Republic. That is why I think the trip that President Nixon has proposed has very far-reaching implications although you won't see them by looking exclusively in the framework of the Vietnam war or in the framework of military security.

That is why I made such remarks as I did about completely fresh and unconventional approaches to the economic convergencies, rather than the economic conflict of China, Japan, and the United States.

Chairman PROXMIRE. Gentleman, thank you very, very much.

Mr. Cohen.

Mr. COHEN. Could I just have one final remark about the stability in Asia.

It seems to me appropriate that we begin to revive interest in this country and in the executive branch in the idea of recognizing and establishing diplomatic relations with Mongolia. We were, as you know, very close to doing that in June of 1969, when the State Department recommended it. But there was an objection from the regime on Taiwan against this. They have revived their interest in claiming Mongolia for China. I think it was a profound mistake that we didn't go ahead in recognizing Mongolia despite that objection. I think we now should do it, because it would accord with the President's recently expressed objective of recognizing reality, recognizing governments that control the bulk of areas we called nation states.

It would give us a very important listening post on many of these problems you have been asking questions about, Mr. Chairman. It would also provide some balance to the Soviet Union's almost exclusive ability to exercise influence in Mongolia.

I think the Mongolians have long been interested in a window on the West for economic and political reasons, and the People's Republic is not likely to be upset by this move. I has recognized Mongolia and made a border agreement with it, although it doesn't like the way the Russians have treated China with respect to Mongolia. If properly approached on this point, the People's Republic might welcome having a U.S. presence in Mongolia as a counterpoise to Soviet influence, at a time when Chinese influence in Mongolia is very, very low.

For all these reasons I think it would be extremely important for us to revive that idea and perhaps give the administration some support and show that it would be appreciated.

Mr. FAIRBANK. Mr. Chairman, may I say we need funds for more Chinese studies in this country.

Chairman PROXMIRE. Yes, indeed. And I think you have made a very strong and compelling case for that. And I appreciate that a great deal.

I want to thank you gentlemen very much.

We expect to have witnesses from the Defense Department to give their justification, and their viewpoint, and their responses, perhaps, to some extent to your testimony in the State Department and from other witnesses, because we feel that there is such a vital question that has not been explored or developed. So we will continue to do it.

You have certainly made a contribution this morning.

Thank you very much.

(Whereupon, at 12:45 p.m., the subcommittee was adjourned, subject to the call of the Chair.)

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