Possibility of a Resource War in Southern Africa

THE POSSIBILITY OF A RESOURCE WAR IN SOUTHERN AFRICA

HEARING

BEFORE THE

SUBCOMMITTEE ON AFRICA

OF THE

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THE POSSIBILITY OF A RESOURCE WAR IN SOUTHERN AFRICA

WEDNESDAY, JULY 8, 1981

House of Representatives,
Committee on Foreign Affairs,
Subcommittee on Africa,
Washington, D.C.

The subcommittee met at 1:40 p.m., in room 2255, Rayburn House Office Building, Hon. Howard Wolpe (chairman of the subcommittee) presiding.

Mr. Wolpe. The subcommittee will come to order.

In recent months there has been increasing concern among Americans about the threat of a resource war in southern Africa. Newspaper and magazine articles and advertisements have warned that the Soviet Union is engaged in a strategy to achieve domination over southern Africa in order to deprive the West of strategic minerals essential to its industrial and military systems.

Last September, no less a figure than Alexander Haig told the Subcommittee on Mines and Mining of the House Interior and Insular Affairs Committee that:

> The era of the Resource War has arrived.

And

> Should future trends, especially in Southern Africa, result in alignment with Moscow of this crucial resource area, then the U.S.S.R. would control as much as 90 percent of several key minerals for which no substitutes have been developed, and the loss of which could bring the severest consequences to the existing economic and security framework of the free world.

Western nations do depend on southern Africa for approximately half of their consumption of such strategic minerals as cobalt, chromium, manganese, and platinum group metals. The West would be vulnerable to any lengthy interruption of strategic minerals from southern Africa.

Unlike Western Europe and Japan, the United States has stockpiles amounting to several years' supply of each of its key mineral imports from southern Africa, so it would be relatively less affected by short-term cutoffs—under 2 years. But a lengthier interruption would result in major problems of industrial adaptation, as well as some added inflation in the West.

In time, the West could help meet these problems through exploitation of domestic and foreign resources, and through use of existing or new technologies of substitution, recycling, and conservation.

What we propose to examine during this hearing is not the basic facts of dependency and vulnerability, which are increasingly well understood, but the political scenarios and policy assumptions included in the concept of a resource war in southern Africa.

Is Soviet foreign policy now emphasizing control over southern African minerals to either meet its own increasing needs or to weaken the West?

How influential are the Soviets and their surrogates in the region, and what constraints exist on their potential power?

What has been the experience of Soviet-aided regimes and liberation movements in Africa regarding their economic relations with the West, and are there any lessons here for the case of strategic minerals?

What is the likelihood of lengthy cutoffs of strategic minerals from the region, rather than short, intermittent ones, over the next decade?

What can the United States do in pursuing its southern African policy, to reduce the chance of a damaging denial of strategic minerals or extreme price manipulations?

To help the subcommittee explore these questions, we have invited a distinguished panel of expert witnesses to give testimony today.

Congressman Jim Santini, of Nevada, who has done an enormous amount of work on this problem and is the chief sponsor of the proposed National Mineral Security Act of 1981, had planned to testify before this hearing, but had to withdraw due to a necessary change in our hearing schedule.

Rear Adm. William C. Mott, U.S. Navy, retired, is executive director of the Council on Economics and National Security, a project of the National Strategy Information Center, an independent foundation. Admiral Mott, who is also an attorney, served recently as a member of the task force appointed by President-elect Reagan to recommend executive and legislative action on the problem of critical minerals.

William Severin, a private consultant, worked for the Central Intelligence Agency from 1951 to 1980. From 1958 on, he was an industrial economist and analyst for the U.S.S.R. and Eastern Europe, and his work centered mainly on nonfuel mineral industries.

Robert Legvold is a senior fellow with the Council on Foreign Relations and director of its Soviet project. He is also an adjunct professor of political science at Columbia University. Among his numerous writings is a book on Soviet policy in West Africa.

Finally, Robert Price is a professor of political science at the University of California at Berkeley, and associate director of its Institute of International Studies. Professor Price has also written widely, and his most recent book is "U.S. Foreign Policy in Sub-Saharan Africa: National Interest and Global Strategy."

Let me invite each of our witnesses this afternoon, if they would, to summarize rather than to read their written texts; and if possible to confine these summaries to about a 5-minute range if at all possible, in order to allow maximum time for questioning and for dialog this afternoon.

The full text, of course, of your testimony will be included within the body of the record.

With that, I would like to call first upon Rear Admiral Mott to open the testimony.

STATEMENT OF REAR ADM. WILLIAM C. MOTT (U.S. NAVY, RETIRED), EXECUTIVE DIRECTOR, COUNCIL OF ECONOMIC AND NATIONAL SECURITY

Admiral MOTT. Thank you, Mr. Chairman.

I might say that I first became interested in this subject over 20 years ago when I was made the chairman of the American Bar Association's Committee on Education About communism, a committee which was formed by a man who now sits on the Supreme Court of the United States, Justice Lewis Powell—like me a former intelligence officer. He was in OSS.

Mr. WOLPE. Could I ask that you use the microphone?

Admiral MOTT. So, I am particularly interested in this from the standpoint of a Sovietologist and student of the aims, objectives, and practices of communism.

I think it might be useful, Mr. Chairman, if I were to send up to you a set of photographs which will give you an idea of the geography of the resource war.[1] I learned when I was a midshipman that a picture sometimes helps to work the problem.

They are all different, let me just take them one at a time, then you can pass them along. The first picture that you have (figure 1) is a picture of the Middle East, and the red line that you see there envelops 60 percent of the world's known oil reserves.

There does not seem to be any doubt that the Soviets have in mind getting to this in one way or another. Of course, it is very cheap oil which costs about $1 a barrel to extract, whereas it costs the Soviets about $18 a barrel to get it out of the permafrost.

Now, Stalin well understood this. The beauty of talking about this subject is that the Soviets let us know exactly what they are up to.

I will tell you what Stalin had to say about the resource war. He said,

> If Europe and America may be called the front or the arena of the major battles between socialism and imperialism—

And that is us—

> The unequal nations and the colonies with their raw materials, fuel, food, and vast store of manpower, must be regarded as the rear, the reserve of imperialism. To win—

And they always use that word—

> To win a war it is necessary not only to triumph at the front, but also to revolutionize the enemy's rear—

To revolutionize his reserves. That is actually what they are up to in Africa as well as in the Middle East.

> Hence,

Stalin says,

> The victory of the world proletarian revolution may be regarded as assured only if the proletariat is able to combine its own revolutionary struggle with the liberation movement of the laboring masses of the unequal nations and the colonies against the rule of the imperialists and for the dictatorship of the proletariat.

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[1] The material referred to appears at the conclusion of Admiral Mott's prepared statement.

Now, a lot of people say, "Well, they were de-Stalinized, we do not have to pay any attention to what he says any more." But I have a group of Sovietologists headed by Ambassador Kohler who are producing a monograph that can trace these same objectives and practices from Lenin right through to Brezhnev. They have not changed at all. Khrushchev made a speech about this at the University of Jakarta in 1960 which I quoted in my statement.

Now, another source of persuasive evidence that we are involved in a resource war in Africa are the Soviet defectors.

Just a few days ago in my capacity as editor of the American Bar Association Intelligence Report—a copy of which I would hand up to you, sir—I journeyed to London to talk to some defectors. One of them being a very beautiful lady defector, and the other one being a longtime member of the KGB who had a hair-raising escape from Geneva, which is a nest of espionage for the Soviet Union.

So, I put the question to him, sir, that I thought you might ask me, directly. I said,

> There have been reports in the West that it is official Soviet policy to wage what has been called a resource war by progressively denying the West access to vital raw materials. In your KGB experience, did you hear talk about the resource war and could you tell me what you know about the direct involvement of the KGB in this war?

This is a recent defector, Ilya Dzhirkvelov, who is still under protective British custody in London. He met me in a safe place under the control of the Royal Air Force.

His answer was quite direct, he said,

> The Soviet Government has been paying much attention to the resource war since the mid 1940s. It started with oil. As early as in 1945 or 1946 the Soviet Iranian Oil Company called Kivirhurian was formed. The Soviet director of the company was a KGB officer, a trained oil specialist. Mossadegh came in and took that over, so they did not succeed that time.

But very significant from the point of view of the resource war was the turn in the long-range Soviet policy toward the Arab countries and Israel. He pointed out to me that Stalin deliberately made this change, although the people in the KGB, including himself, thought it was a mistake because they thought they had a much better chance of gathering intelligence through Israel than they did through the Arabs.

> But he decided to support the Arabs and the reason we were told in the KGB was oil. The anti-communist mood of the late Egyptian President Nasser was ignored. It was his pan-Arabic designs that tempted the USSR to gain control.

Then he added to me,

> It is worth stressing that at that time the USSR had virtually unlimited oil resources and therefore the Soviet interest in the Middle East oil was clearly political.

He tells about a meeting he had with a man named Patolichev, the head of foreign trade. He stressed that the Soviet Union was after the oil of the Middle East. I still believe they are after the oil in the Middle East, and I believe they may make a move toward it very soon.

> As for the role of the KGB in the Resource War, it is serious enough—

I am now quoting from Ilya Dzirkvelov—

> Both the KBG and the GRU are gathering intelligence worldwide of the availability of various resources to enable the Soviet leadership to act precisely in the way

which would hurt the Western countries most. Then, the KGB is ordered to concentrate its efforts on the countries important for their mineral resources—both to obtain more information and to influence the events in those countries. Stalin's goal of depriving the West of the mineral resources of the planet is still pursued in the USSR and by the KGB.

Now, even such a distinguished figure as Dr. Andrei Sakharov has told us the same thing in messages that he has sent from his house confinement in the Soviet Union.

You already mentioned what Al Haig said when he appeared before the Santini committee. He said, "As one assesses the recent stepup of Soviet proxy activity in the Third World, in Angola"—which is one of the countries concerned in one of the pictures I sent up to you (fig. 3) have up there, one of those colored photos—"Ethiopia, Southern Yemen, and the December 1979 unprecedented invasion of Afghanistan by regular Soviet forces, then one can only conclude that the era of the Resource War has arrived."

I also have a long quote in the ABA Intelligence Report from the chief intelligence officer of the United States, Bill Casey, who, by the way, was one of the founding directors of my organization, the National Strategy Information Center.

He gave a speech on this subject, which I have reprinted in full in this American Bar Association Intelligence Report, in which he spells out in lavender our dangerous situation and why he thinks we are in the kind of war we are talking about.

Mr. Chairman, if I were to pick two officers of the executive department that I would want on my side in any dispute as to whether there is a resource war or not, I would pick out the man who formulates the foreign policy of the United States and the man who collects the intelligence and evaluates it. Those two men are Al Haig and Bill Casey. Both of them have gone on the record in this area.

Now, I would like to have you take a look at that photo that I have sent up to you (fig. 8) showing you where the Cubans are in Africa. They are in 12 countries.

Mr. Chairman, those Cubans did not walk across the water from Cuba to go into those 12 African countries. They were brought there in Soviet transports and they are there to carry out the will of their masters for whom they are the surrogates.

They are not there, as Andrew Young once said, as a stabilizing influence—they are there as a destabilizing influence. I think we should have very great concern about the presence of the Cubans.

The numbers that I have on that chart are really not material because there are Soviet transports that can move them from Angola up to Ethiopia, or to South Yemen, or Afghanistan, or anywhere else they want. We have no comparable presence in Africa.

One of the great problems of this book, "South Africa—Time Running Out," which I have read, which you may have read—I saw one of you have a copy of it up there—that they did not have anybody that understood the military on the writing staff at all, or geopolitics either because they do not seem to think that the resource war is a problem. They do not seem to think that the Cape of Good Hope waterway is a problem where 26,000 ships a year pass—26,000 ships. They said, "Well, that does not mean anything, they could go some other way."

Well, there was not anybody on there who knew anything about navigating ships or ever heard of the "Roaring 40's." If you have ever been down in that area, it is about the worst weather in the world surpassed only by the screaming 50's. That is why these tankers hug the coast to go around the Cape of Good Hope. They break apart in the 40's or 50's.

Now, let me just very quickly turn—I answered each one of your questions seriatim, which you gave me—but in the end you asked if I had any suggestions, and that is really the sticky part there for any witness, Mr. Chairman.

Reassessing foreign policy in Africa is a delicate and sometimes messy business, as I think Mr. Crocker discovered in his first trip down in that area. It is much easier to offer advice than it is to implement it.

I offer the following suggestions: There should be a mechnism set up in the executive department—and this was part of the recommendations of the Reagan task force on strategic minerals which you referred to earlier—such as the old National Security Resources Board which could be put into effect by the stroke of a pen—the legislation already exists—to review our mineral needs and to make recommendations to the President as to how they should be made.

There should also be established a Presidential Resource Advisory Board made up of distinguished scientists, minerals users, and mining representatives, to evaluate our stockpile. Our stockpile is not in as good condition, Mr. Chairman, as you indicated.

Cobalt, for instance, is at about 48 percent of authorized levels, and there is considerable doubt as to whether the kind of cobalt we have in there is fit for today's high technology. That is why we feel that there should be both a qualitative and a quantitative evaluation of what is in the stockpile by an outside group.

That is because I do not trust bureaucrats on the inside, I want an outhouse group, not an inhouse group to advise the President as to what should be done with respect to the stockpile.

I testified before the House Armed Services Committee a couple of weeks ago that I oppose the selling of anything from the stockpile, or buying or anything for the stockpile until we had that kind of an evaluation. I think my recommendation ran up against Mr. Stockman and did not get anywhere.

The United States should take the lead in developing a tri-oceanic strategy through which we and our allies concerned would work together to provide security to minerals production—not only minerals production, oil as well, and the transportation routes.

General Haig has endorsed this concept in principle in the same testimony to which you referred in your opening statement.

Meanwhile, the United States should increase its naval and military presence in the Indian Ocean by acquiring and improving base rights. If you look at those choke points on the chart I provided (fig. 2) you will see some of those, like Al Masira Island. We should strengthen Diego Garcia, and somehow or other we should reassess our self-imposed prohibition of the use of South Africa's ports and dry dock facilities.

Now, I know that gets into a sticky area that requires some rapprochement with South Africa which I think would include the following elements:

No acceptance of apartheid. Nobody in America, especially in the Congress, can get up and say, "I approve of apartheid." No individual can, certainly not anybody named Mott. If you go over there you will find Lucretia Mott in the Capitol Gallery. She was the first president of the Equal Rights Conference in this country when it was formed in 1866. So, nobody named Mott can approve apartheid.

We need to encourage through quiet diplomacy—and I mean quiet diplomacy—the influence of labor—and labor is very important in this work; the church—and I do not mean the nosey church, either; and business groups for elimination of apartheid—but by evolution, not by revolution.

When Dr. Leon Sullivan went to South Africa, when he was on General Motors' board, he first had made a recommendation that we ought to pull everything out that General Motors has in South Africa. They said, "Well, Dr. Sullivan, why not go down and investigate and report at the next board meeting."

When he came back and reported at the next board meeting he said, "I made a mistake." He said, "If we pulled out, if all the American corporations pulled out of South Africa, there would be a revolution and 1 million people would be killed; and 98 percent of them would be black." That is how the Sullivan principles came into being for the operation of American corporations in South Africa. We should continue that.

But there should be no didactic dictation, "Do it our way or else." Mr. Chairman, our country's record on civil and human rights from 1620 to date is nothing to be proud of. In fact, it is shameful, and it gives us no right to pound the table and say, "You guys in South Africa must make a quantum leap in human rights to where we think we are today"—and there are a lot of women who do not think we have gone far enough—"or we will not do business with you."

Someone might ask us how our aborigines, the American Indians, have fared under our solicitous care.

Then, finally, we should extend foreign aid to the countries of southern Africa. Not just in block money grants but in the kind of aid we know best, farming techniques, for instance.

For example, when Zaire, Zambia, and Mozambique were colonies they were net exporters of food and they had positive gross national products. Now, they are net importers of food from, guess where? South Africa. (See fig. 5—Southern Africa railnet.) That is where they get their extra maize to feed their people. They have minus GNP's.

Surely, America could find a way to reverse these discouraging statistics in these countries.

Finally, in a word, we should try to lead and not dictate or set conditions precedent to cooperation and action. Thank you, Mr. Chairman.

[Admiral Mott's prepared statement follows:]

to the only customers that exist for them--the U.S., Western Europe and Japan.

Short-term Supply Interruption

The resources war scenario, whereby southern African states allied with the Soviet Union undertake a political strategy of resource denial, represents only one form of western vulnerability in respect to strategic minerals. Another and far more plausible vulnerability exists in the area of short-term interruptions in supply produced by political upheavals that disrupt mining operations or transportation facilities. It is important to distinguish these two forms of vulnerability because the policy implications of each are quite different. The threat of a resources war calls forth an interventionist policy so as to prevent radical political transformation and contain the spread of Soviet influence; the political upheaval/supply interruption scenario points toward a strategy of prudent stockpiling.

The key things to understand about the threat of supply interruption stemming from political insurgency is that it Is limited in regard to both effect and duration. While future insurgent violence in South Africa could well interfere with the smooth flow of mineral supplies, it is difficult to conceive of a situation in which such interruption was total. Insurgent violence could have an effect on some mines, railroads and ports, but it is hardly likely to shut down all the mines and means of transportation simultaneously. Thus, while Western supply vulnerability to political upheaval in the key South African source is real, it should not be exaggerated. Political upheavals in southern Africa, even when they affect supplies, are not going to produce the kind of complete shutdown and resultant crises in the industrial world that is envisioned in the resources war scenario.

Because both the status-quo government and the insurgents, should they be successful, have a very strong interest in restoring mineral exports--they are their chief means to rebuild their economy and society--supply interruptions can be expected to be only temporary affairs. Consequently, the stockpiling of strategic minerals which the West imports from southern Africa is the appropriate means to deal with vulnerability posed by political upheaval. The United States has since the 1950s stockpiled such minerals, and the current stockpile of manganese, chromium and platinum-group metals is sufficient to cover over two years of U.S. consumption. The Europeans and Japanese have been less effective at building stockpiles and this is a cause for concern, since in the event of a supply disruption the United States would be called upon to share its stockpiled reserves with its allies. The answer, of course, is encouragement and pressure upon U.S. allies to gradually build their own stockpile of strategic minerals.

Thus, while dependence on southern African minerals creates U.S. vulnerabilities in the event of revolutionary upheaval, especially in the Republic of South Africa, these are vulnerabilities that can be relatively easily managed. A prudent policy of gradually building the U.S. stockpile in areas in which it is low, and of encouraging allies to do likewise, is what the situation calls for.

Mr. WOLPE. Thank you very much. I want to thank all the panel members for the thoughtful testimony, provocative testimony in terms of the variety of issues raised.

I would like to begin by asking a general question of the entire panel. Over the past several months, the debate has unfolded in the media and foreign policy spokesmen from the administration have taken the general approach that indeed there is a resource war about which Americans ought to be concerned—or if not a war, at least we need to be concerned with the potential of that war evolving and therefore we need to adopt a different approach toward the Republic of South Africa, specifically an improvement of our formal relationship, not one raising apartheid, nonetheless, one that would provide greater legitimacy to South Africa and in the world at large.

I would like to just get reactions to the following proposition that even if one assumes the existence for the moment, if you will—just for purposes of argument—of the premise that Rear Admiral Mott spelled out so forcefully that indeed we are into a situation in which one needs to be vitally concerned with Soviet intentions, motivation, that indeed we are in the midst of a resource war. Even if one begins with that premise, does it really follow that the end product of that premise is indeed a close relationship with South Africa?

I raise that in the context of the variety of observations contained in the testimony of all of you. For example, Rear Admiral Mott points out in one of the charts that he presented to the committee that the number of minerals——

Admiral MOTT. I only lent them to the committee, sir. I have copies.

Mr. WOLPE. I promise—we will return them.

Admiral MOTT. I have copies, however, in black and white, should you desire to reproduce them.

Mr. WOLPE. I appreciate that, thank you.

In this exhibit (fig. 4), there are a number of minerals that represent strategic importance to the United States, that are actually located outside of the boundaries of the Republic of South Africa—in Namibia, uranium; in Zaire, cobalt; in Zambia, copper and cobalt; in Zimbabwe, chromium. In short, a number of strategic minerals reside within black-controlled countries.

I guess one question I would ask: Does the posture that will be perceived, at least on the African Continent, of rapprochement in a sense to South Africa, risk doing violence to our own strategic interest with respect to mineral dependency in black-controlled Africa? That is one question.

Second, to the extent that those minerals are important in South Africa, and to the extent the Soviets may indeed be intent upon trying to secure, either through denial to us or use for themselves, does it not follow—which is much more important—20 years from now, do we not run the risk that occurred in Iran in essentially identifying ourselves with an inherently unstable regime in creating a situation with the successor regime where unnecessarily the United States is their adversary?

I would be interested in eliciting response from the panel.

Admiral MOTT. Mr. Chairman, since you are talking about my charts let me say, I think most all of the countries down there are unstable in one way or another. I feel that a lot of talk which went on, I guess, day before yesterday at the meeting of the African countries—less South Africa—about the United States having made an "unholy alliance" with South Africa was to a large extent rhetoric.

If you will take a look at another chart (fig. 5) that I sent up there, sir, that shows the railroad system in South Africa and in Angola, and in the other countries down there.

You will soon discover that the only way these people can get their minerals out of Southern Africa—unless they fly them, I am talking about Zambia and Zaire, and Rhodesia—is through South Africa. The Benguela Railroad which might be used to bring cobalt came out of Shaba Province, Zavimbi blows up every other week and it is not worth a damn to get stuff out.

So, they are dependent on South Africa which has the only efficient railroad system in that part of the world to not only get their products out, but to get the food they need in.

So, I just feel that while they have made a lot of noise about wanting to embargo South Africa, probably the last thing they really wanted to do was to have that take place. Because, let us face it, they are dependent on South Africa not only to get their exports out, but to get their imports in and to get their food in.

Yes, they have taken the position, their organizations, that South Africa is a moral leper and ought to be treated as a moral leper. But I do not really think they mean it, from the observations that I have had and from talking to people that do business over there.

I am, as I said in my statement, not an advocate of going into South Africa without trying to bring about a change in their policies, and to help them to bring about a change in their policies with respect to apartheid—that is what the Sullivan principles are all about.

We have to be careful, that is true. That is why I am very happy that this administration is still evaluating the situation. They recognize that there is this delicate balance there that you talk about, that we cannot, let us say, jeopardize the oil that we get from Nigeria which, I believe, is the second largest exporter of oil to the United States and the world, next to Saudi Arabia.

They have threatened from time to time—and again I think a good part of it is rhetoric—"If you guys are going to make a deal with South Africa we are not going to let you have our oil any more." So, this should be a constant worry, Mr. Chairman, not only to the administration but to committees like this committee, the House Foreign Affairs Committee.

But I just think we have to give the administration a chance to work things out. As a military man I just think it is God-awful that not since 1967 has an American ship been able to make port in South Africa, even for R. & R.—if you know what that is, rest and recreation.

Mr. GOODLING. He has gone there for 7 weeks to get that. [Laughter.]

Admiral MOTT. Furthermore, if one of our ships breaks down in the Indian Ocean and it cannot be repaired by a repair ship, the only drydock facilities in the area are at Simonstown.

I understand that there is somewhere in the budget way off some money to build a drydock in Diego Garcia, but otherwise the ship has to come back to Norfolk or to Subic Bay if they cannot fix it, or to the west coast.

I just think it is stupid to deny ourselves while we are working out some kind of a rapprochement with South Africa. Now, sure, it is going to become more acute 20 years from now because the minerals are going to start running out.

Nobody said anything yet about what we ought to be doing in this country. We have a mountain of cobalt up in Idaho, in the Black Bird Mine. We have cobalt in Missouri. But we also live in a free-enterprise economy and the company that owns the mountain and the cobalt out in Idaho is not going to develop that cobalt unless it is assured somewhere that it is going to make a profit at the end of the line because the money has to come from its stockholders.

Therefore, we ought to invoke title III of the Defense Production Act, if we can get Mr. Stockman's permission, to set some kind of a floor which would encourage Noranda to start mining domestic cobalt.

Jim Watt was a colleague of mine when I was the head of a public interest law firm, a sister law firm to his. While he seems to run into a lot of opposition selling his product, I think he is right to open up some of our areas for mining exploration and development. You have to think that once you find this mineral, under our environmental laws and under our various restrictive paperwork, it takes from 10 to 12 years from discovery to production.

Now, one of the things that I hope Murray Weidenbaum is doing, since he was chairman of the President's Regulatory Task Force and also a member of ours on strategic minerals, is to cut that down to where it would take only 6 years, which is what it takes in Canada. We have an absolutely disgraceful layer of regulations which inhibit or prohibit domestic mining. We need to go in that direction.

Mr. WOLPE. Let me invite the other panelists to respond to this question about whether, if we assume the resource vulnerability, the resource war premise, does it follow that we move toward rapprochement with South Africa.

Mr. PRICE. I think your observation that some of the strategic minerals that the United States and the West more generally obtain from South Africa are in fact available elsewhere, they therefore do not necessarily represent a vital interest to the United States.

I think the observation is only partially, however, accurate. I think if you eliminate cobalt, for example, and perhaps—and only perhaps—manganese, I think you are still left with a residue of extremely important dependence on South Africa which cannot easily be eliminated.

It is true that Zimbabwe produces chromite ore and ferrochrome, but they do so to a less extent than South Africa. In terms of reserves, in comparison South Africa is estimated to hold 68 percent of the world's reserves of chromite ore compared to Zimbabwe, which has 31 percent.

If you talk about capacity for ferrochrome, which is the way the industrial countries are moving, for import of ferrochrome rather than raw chrome, then the balance toward South Africa is even more extreme dependence—it seems to be growing, if anything.

Other minerals, such as vanadium, platinum-group metals, outside of the U.S.S.R. and China, I think that any kind of hardheaded analysis has to come to the conclusion that South Africa is very important and indeed is vital in that regard.

The second question, if we assume what I consider totally implausible, that a regime coming to power after a successful plot—revolution aided by the Soviet Union—they turn around and refuse to sell those minerals to the West, if we assume that, does that force us to the judgment that the United States has to—like it or not—engage in some rapprochement with the current regime in the Republic, I think it does not.

I think it does not for one simple fact, or one simple reality which is often overlooked, and that is that the white South Africans, for better or for worse, are quite capable of taking care of themselves in maintaining the security of their own regime. They do not need help from the United States in maintaining the security of their regime.

I think there is no plausible immediate threat, even within a 20-year period that somebody mentioned here, that that regime is going to be overthrown by an insurgency.

So, it does not seem to me, even in the unlikely scenario that you talked about, that that necessitates the United States providing support for this regime.

Admiral MOTT. I did not propose that, Mr. Chairman. I think we need them more than they need us in this context.

Mr. WOLPE. Do the other gentlemen have comments?

Mr. LEGVOLD. Let me adjust the premise of your question in one respect because I think the issue is not merely what the Soviets may intend to do, but what they can pull off.

If you assume, as your question does, that the Soviets mean to deny us those resources and may be able to do so, then almost certainly any American leadership would be forced to line up with the South African regime. Faced with such a threat, no U.S. leadership could bother with a more nuanced policy toward the region. So it is important to distinguish Soviet intention from capability.

But I take it that you do not really mean to hypothesize that the Soviets have a real possibility of threatening mineral supplies; rather you are asking whether a U.S. policy more in tune with the concerns of black Africa may not be a better way to reduce whatever opportunity the Soviets may have for troublemaking in the area. The question then is how far the administration can tilt toward South Africa without jeopardizing our relationship with black African nations which are important suppliers of strategic nonfuel minerals. To be objective I think it can move quite far in its present direction.

The Reagan administration's South African policy is not likely to seriously affect the supply of cobalt from Zambia or Zaire, or the supply of manganese from Gabon—and these are the Black African exporters that matter the most to us.

But the more essential question is whether by moving toward the South Africans we do not in the longer run risk promoting precisely the violent and unfavorable political change we hope to prevent—whether in short we are not repeating the errors of our policy in Iran. The deeper issue is not whether we are putting mineral supplies at risk. I accept Professor Price's point that radical regimes are likely to continue to sell their raw materials and minerals to us. The real issue is whether a tilt toward South Africa favors or endangers a peaceful and expeditious transition in that country and in the region. The deeper issue is far more significant than the phony issue of a Soviet-sponsored resource war.

The policy judgments involved are difficult to make, but I believe that on balance a policy moving toward an alinement with South Africa in the name of countering the Soviet threat is likely to be counterproductive. But the process by which we assist relatively stable and speedy change is exceedingly elusive.

Mr. WOLPE. Thank you.

Mr. Severin, would you care to comment?

Mr. SEVERIN. My comments are rather limited. I just have the feeling that we are talking about a situation which is rather difficult to assess, first of all, from the standpoint of the availability of supplies from these various countries.

South Africa, as we have been discussing here, is certainly of extreme importance. But I have recently come across an assessment of that in which the emphasis really was the thrust to us to take a more balanced view and realize that throughout Africa, southern Africa, and even beyond that, there were rather extensive supplies of minerals that we have a need of.

Now, the problem of making a move, a strong move of rapprochement, is one that may be well intentioned. I think it has to be one that is rather low keyed if that is one way to put it. But we certainly have to have a balanced outlook on our dealings with all of these countries. A heavy-handed type of rapprochement which entailed a systematic dropping of the existing regime, that would certainly be one that might have some adverse effects down the road.

I do feel in the last analysis, as Mr. Price has pointed out, that if we deal with the situations in a rather evenhanded way, that we will be able to, I believe, have some degree of continuity of relationships with all of them. And the mere fact that, as he pointed out very clearly and forcefully, they are more or less locked into dealing with the United States and its Western allies. That despite upheavals and temporary dislocations and the like, over the long haul we can perhaps be able to work things out in a manner that will hopefully maintain relations down there on a rather even keel.

Mr. WOLPE. Thank you very much.

I will now turn it over to my colleague, Mr. Goodling.

Mr. GOODLING. First of all, I think it is important to keep in mind, in spite of what one or two people in the administration have said—they have only really been in business, you might say, 3 months. You talk about people being in place and making studies, making decisions, et cetera.

As I understand it, the National Security Council is presently studying this very issue and will eventually make a recommendation to the President. So, in spite of everything an individual may have said, that policy has not been set as yet.

I was thinking that the admiral probably was wondering whether he was invited as a "prong" to this side of the aisle or set up, or what. But I think if we had the four of you take on each other you would probably hold your own and it would probably be more interesting to the people who are here than possibly our questions.

Mr. Legvold, you talk about four fears, and then you talk about credibility. If we had 2 or 3 days I would go down the line and say, "Now, why should I believe you rather than the admiral," or, "Why should I believe you, Mr. Price, rather than the admiral," but we do not have that kind of time.

So, I will just ask one question and then have to leave and let the staff member tell me how you all answered.

Setting aside all of the political implications and so on, and looking only in the best interest of the United States, is it in our best interest at this particular time to increase the size of our stockpile of strategic material? Setting aside the fact that, yes, we should encourage our allies this, that, et cetera. You know how successful we have always been in encouraging our allies. They know very well, when the blow comes we will be there to help them. So, they really do not have to worry about our recommendations about what they should do.

So, is it in our best interest to increase the size of the stockpiles in the United States? I think somewhere along the line we will be asked probably to vote and make a decision on that.

So, that would be my question of all of you. I will let Gardner tell me what the answers were. The beeper which interrupted you while you were speaking was saying that, "At 3 o'clock you were supposed to be some place else, why are you not there?"

Mr. WOLPE. Thank you, Mr. Goodling.

Mr. Severin?

Mr. SEVERIN. The question has in my mind two aspects to begin with; that is, one is the traditional notion of a strategic stockpile in which you were obliged to have an adequate supply to carry on during a war.

Now, the definitions have changed through the years because the notions have changed, also, of the likelihood of a war we will be faced with. At one time there was a 3-year supply of most of these important minerals. It was cut back at one time to 1 year and has gone through a lot of movement back and forth, reflecting these different concepts about the type of warfare we might be involved in. So, there is the strategic aspect.

There is also the concept of an economic stockpile, that is, looking more closely at the impact of disruptions. Would we be able to survive with our economy, our industrial activities in general being extremely adversely affected by way of interruptions.

So, the question does have this additional dimension which does complicate it somewhat.

In my mind, I think an approach to it is one that would involve the distinction that was made earlier, I believe by Mr. Price or possibly Mr. Legvold, distinguishing between vulnerability and dependence.

Now, we certainly should look very carefully at the list of our requirements down the line; very carefully look at the requirements in both terms of strategic needs and general industrial needs and get a fix on that.

But beyond that, to establish just what our sources of supply are. That is, we have a good neighbor to the north that we can rely on in a pinch, I think. There are some problems that have emerged recently, I will be the first to acknowledge, in terms of the changing political climate up there, the mining industry is up in arms about some of the provincial governments' actions and the like.

But I think we can draw a distinction between this question of vulnerability and dependence, assess the situation from the standpoint of how much we can rely on certain sources of supply.

We certainly should have as a basic requirement enough to take care of our strategic needs. Beyond that, of course, the sums of money might be so great that we would be a little apprehensive about undertaking the task, it might run into such sums that with budget cutting and the like underway, we would have not a chance of a snowball in hell to get an idea like that through.

But it seems to me that these are the sorts of things that would have to be looked at in order to formulate any policy about what the levels of this stockpile should be.

Mr. WOLPE. Mr. Legvold?

Mr. LEGVOLD. Very briefly. First, if we fail to provide an adequate petroleum reserve, as we are failing to do, the question of a nonfuel strategic mineral stockpile becomes a secondary issue. But on the question of a strategic mineral stockpile: In principle, it is desirable to build up such a stockpile. In the short run it is a key step in dealing with the problem of vulnerability, hence reducing the significance of dependency. It will permit us to live with a certain degree of dependency.

If, however, you ask whether the stockpile will actually be needed in the near future—either because the Soviet Union with others limits supplies, or more probably because of cutoffs due to political instability in some region—I would answer that the prospect has almost zero probability. We may see situations like those in the case of the 1978 incursion into Shaba Province, producing a 2½-fold increase in the price of copper and some shortfall in supply.

There may also be problems like those following the Soviet withdrawal as a supplier of large quantities of titanium sponge in 1979.

But as a matter of our sense of security and well-being it is worth the investment.

Admiral MOTT. Mr. Chairman, the Congress of the United States and the executive department have been up and down the pike on this stockpile issue for many, many, many years.

The first idea of stockpiling, if you want to go back to the very beginning, takes place in Genesis, in the Bible where the Pharaoh had a dream about seven fat cows and seven lean cows coming out of the Nile, and he did not understand what it meant. So, he asked a slave whose name was Joseph and he was told that that meant there would be 7 years of good crops in Egypt, followed by 7 years of bad crops.

He said, "What should I do about it?" And the answer was, "Stockpile."

So, he said, "OK, you are in charge." So, they had stockpiles all over Egypt and when the 7 years of famine came, the people had bread.

That is the whole idea of the stockpile. When our task force, the Reagan task force, considered this question we recommended to the President and, as you said the National Security Council—or somebody said it—is acting on those recommendations now—I believe Mr. Goodling. There ought to be a qualitative and a quantitative analysis of the stockpile. We felt that in certain of these areas the stockpile ought to be brought up to the levels that the Congress of the United States authorized—not the Executive, the Congress of the United States.

We also said, sir, that there ought to be certain conditions under which this stockpile should be opened to industry in this country. As the law now says, it is limited only to defense and to the military, so industry cannot get at it.

Now, I just returned from Bonn, Germany, and from Paris and from London where I went into the stockpile problem with them. The Germans had a stockpile approved until it came up against their "Mr. Stockman" and their "Mr. Stockman" said, "Sorry, we just do not have the money to put these things in a stockpile."

In France they do have a stockpile. I talked to the man who was responsible for it. But it is only about a 2-month supply.

Japan is so jittery that I have been asked to come to Tokyo to put on a seminar for them on their own vulnerability, which is pretty close to 100 percent.

Maggie Thatcher does not have enough money either, to put it into stockpiles, although the British think they should have one.

So, in effect our stockpile is international—it is international. If they got into real trouble they would look to us to supply them. They are apt to be the ones to get into trouble first.

I do not know whether any of you have ever heard of Mr. Houphouet-Boigny who is the President of the Ivory Coast. When another committee of this Congress asked him about this he said to them flat out, "If the Soviets could gain control of the natural resources of Africa, they could take over Western Europe without firing a shot." That was his view of the danger.

Of course, as you know, somebody has already mentioned the invasion of Shaba Province, and another committee of this Congress has reported, as has the AFL-CIO Free Trade Union News, that the forces that invaded Shaba were trained, organized, and led from Soviet-Cuban bases in Angola.

It did more, sir, than increase the price of cobalt by 2½ times, it increased it by almost 5 times. The spot price went to $50.

So, I feel that there should be an evaluation of the stockpile. Of course, the House Armed Services Committee is the one that is responsible for it and I recommended to them that they should press the administration to have an evaluation of the stockpile and to come up with some recommendations as to the future.

Mr. WOLPE. Mr. Price, do you want to comment?

Mr. PRICE. I may have a few brief remarks.

PREPARED STATEMENT OF REAR ADM. WILLIAM C. MOTT, U.S. NAVY (RETIRED), EXECUTIVE DIRECTOR, COUNCIL ON ECONOMIC AND NATIONAL SECURITY (CENS),

Your Chairman has asked for my views on a series of questions. For purposes of clarity and continuity I will set forth each question and then give my views.

1. Is there persuasive evidence that a primary motivation of Soviet foreign policy in Southern Africa (from Zaire to South Africa) is the acquisition of control over strategic minerals in order to meet its own industrial defense and hard currency needs? (Please focus particularly on chromium, cobalt, manganese and platinum.)

As in the case of oil, the USSR seeks "control" over the supplies of the four minerals mentioned from southern Africa for two reasons. First, to supply its own needs at much less expensive cost of production, but, more importantly, to deny them to the West, with which it is engaged in a "resource war." Central to the issues before this Committee is the question whether such a "resource war" really exists. When faced with the evidence, only the naive could believe it does not.

Sovietologists who have studied the question conclude that it is Soviet doctrine to deny raw materials to the West. They would produce quotes from Lenin to Brezhnev to prove their thesis. For instance, Stalin wrote

One of the constraints of any kind of stockpile is of course the cost, the impact of the effort of the stockpile on the price of the commodity. One of the constraints, of course, on the oil stockpile—though obviously not the only one—is that the governments are buying up huge quantities of the mineral. That reduces supplies worldwide and it jacks up the price.

Admiral MOTT. And selling it depresses it, too.

Mr. PRICE. One of the consequences, one of the aspects of stockpiling in regard to nonfuel minerals, is that their role in industrial production represents a small input relative to the total inputs for the products that they are used. Therefore even dramatic increases in the price, let us say, of chrome do not create as dramatic increases in the price of stainless steel for which cobalt is used. A 300-percent increase in the price of chrome, for example, would result in between a 13- and 15-percent increase in the price of stainless steel.

Manganese is another one of these minerals; it represents only 1 or 2 percent of the cost of steel production. So, dramatic increases in manganese—while they are not necessarily to be applauded—do not necessarily mean that it would drive up the price of stainless steel so high that it would have some sort of catastrophic effect upon our economies.

So, it seems to me that stockpiling is something that is, at least in this aspect, feasible.

As far as the United States is concerned, it seems to me that in a number of these minerals the United States already has stockpiles which are sufficient for supply during interruptions of a temporary nature as a consequence of political upheaval—3 years for chrome; almost 3 years for manganese; less for cobalt and that should be increased. But the United States is a good way of a distance to an effective stockpile.

Now, one might want to make and one should, I think, make certain changes which would allow the use of the stockpile for nonmilitary use. But the stockpile is there, you do not have to enlarge upon it, it is there. We do not need to be hysterical about spending billions of dollars to start from scratch.

Now, if the question is, is the stockpile to tide us over a period of conscious politically motivated resource denial which would be a long-term denial, it could last for 20, 30 years until the Soviet Union went away or the regime in Africa changed, well, then no stockpile is feasible.

So, if you talk about stockpiling, if you want us to talk about it in terms of the kinds of emergencies, the kinds of exigencies for which a stockpile would be used—and in those circumstances one does not have to talk about stockpiles which go beyond, let us say, 3 years, a 3- to 5-year period—I would say 3 is probably sufficient.

Mr. WOLPE. Thank you.

Mrs. Snowe.

Mrs. SNOWE. Thank you, Mr. Chairman.

I certainly heard some wide-ranging views this afternoon and I do not know if I am enlightened or confused. But in any case, I think the first question I would like to ask all of you, in light of the experience that we face in the Middle East because of our dependency on oil and in this situation, I think, sensitivity to a cutoff of strategic materials is one thing and vulnerability is quite another.

What would our alternatives be if, for example, we were to lose sources of our cobalt or platinum? I mean, where would we find such alternatives?

In your opinion, what would be the bottom-line scenario that this country and other countries should develop to protect themselves because of their extreme dependency on the minerals in South Africa?

Admiral MOTT. What were the three minerals?

Mrs. SNOWE. Chrome, platinum, and cobalt.

Admiral MOTT. Well, ma'am, we have to go along a number of tracks. For one thing, I think we should look for substitutes. One of the beneficial results of all this talk that we have had here today and in other fora, the companies in this country are increasing their technological efforts to find substitutes for cobalt.

United Technologies, for instance, of which Al Haig used to be president, has found how to eliminate something like 30 percent of the cobalt that is needed for jet engines by a combination of cobalt and nickel.

TRW probably has one of the best internal mineral needs audits in this country. Corning Glass has the other one—the strategic minerals they need and how they ought to aim their technological research to find substitutes.

There is no known substitute for chromium, which is a terribly important mineral, a great, great deal of which comes from South Africa. Now, it is possible we could get some more from Zimbabwe. We have some low-grade deposits of chromium, I think, in Montana. But it would be terribly expensive for us to mine and get it to be of such quality as we use.

Platinum comes mainly from South Africa. It is used as a catalytic agent for the most part in automobiles, for instance. That catalytic converter that Ralph Nader gave us uses platinum, it uses a lot of it. It is also used in the making of aspirin, which sometimes you need when you talk about this subject. [Laughter.]

Admiral MOTT. But platinum, we have some low-grade deposits, I think, also in Montana. I would have to look at my book.

So, I suppose the answer to them is stockpiling. We do have certain stockpiles. The President chose to buy, I think, $100 million worth of cobalt, after authorization by the Congress. That was considered to be one of our most critical minerals and comes from one of our shakiest areas, which is the Shaba Province.

I disapproved of the selling of silver, the strategic mineral which, unhappily I think, was done for budget balancing. If you will look at this colored picture (fig. 9) which the chairman has up there of the strategic minerals that went into Orbiter—the first of four Orbiters—you will find that a great many of these minerals were necessary. One of them was silver.

I asked Dr. Baker of Bell Laboratories, "Well, how strategic is silver in Orbiter?" He said, "Well, it goes into batteries. It is one of the best conductors we have and it goes into the electronic suit."

He said, "I guess the answer is that while we have another battery that is made of lithium chloride," he said, "it has a tendency to explode. I do not think we would send our astronauts up into space with a battery that has a tendency to explode, and that is why silver is important as a strategic mineral."

I do not think, with all due respect, sir, that we can depend always on Canada and Mexico and Peru to get the silver that we need.

So, I think stockpiling is the answer for these minerals. But I am afraid I am not quite answering what Mr. Price asked. My recollection is that we are only at about 50 percent of the levels that Congress authorized, as a whole, for our stockpile.

I think one of our first tasks is to do what Congress has authorized us to do, and that is to begin to bring stockpiles up to the strength that they should be.

Mr. SEVERIN. If one accepts the premise of your question, that is, is the situation really so serious that we would be unable to get certain of these things without any possible reprieve, that would be one situation.

I think it is a rather doubtful type of premise to operate under, though, for the various reasons we have been discussing. Mr. Price has talked so much about the countries of southern Africa being locked into dealing with their customers that their extracting industries are so vital to their economies that they would have little choice but to make do with what they have. These are becoming increasingly important.

So, I think we are talking about such an important economic fact of life that it is unlikely this could happen.

Mrs. SNOWE. Well, let us make a comparison with the Middle East.

Mr. SEVERIN. The Middle East is interesting, is it not, in terms of the results we had? It had a fantastic impact. But of course there were two different things involved.

There was a cartel, obviously, for commercial advantage. They were not going to cut off supplies per se, they were going to make a lot of money. What did the price go up, tenfold? There have been some fantastic forces set into operation which are now perhaps providing a little hope that the long-term situation will resolve itself.

We are not out of the woods as yet by any means, I am sure. Perhaps the Arabs may have some idea that they may have overplayed their hand because we do have potentials now for dealing with energy that perhaps did not exist 5 years ago.

So, there are ways of coping with some of these problems and in my mind you can run down the list of all the nonfuel minerals and they could not possibly have the same pervasive effect that a cutoff in oil would have. There are so many substitutes.

Admiral Mott was quite eloquent there in pointing out some of the work that is being done. I know that there are standing in the wings a number of candidates for application, there are new composite materials, for example, that have great potential. There are other substitutes, different kinds of metals which are available.

The Soviets themselves provide a good example of this. They, many years ago when they were developing superalloys for jets and other high-temperature applications, were short on cobalt as they had been for a little while. But they favored the development of superalloys using nickel because it is more readily available.

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Now, we would have all of these things to fall back on if at any time we found that this was going to be an irrevocable situation. I do not agree with that, but if that were the situation there would be a lot of things that could come into play to deal with this through substitution, development of new technology.

In the case of chromite we talk about how essential that is. It is certainly needed for the making of stainless steel, but we can from the practical standpoint say, "Well, what can we do as far as the needs for it?"

We can certainly categorize them. Some are absolutely indispensable, we have to do certain things. Looking at new households being formed, you might say some people were very unhappy if they did not have stainless steel sinks. But if they had cast iron with a porcelain top, they would have to make do. You could go down a list of a lot of things that might be done.

Silver is so darned high, you cannot afford to buy it for your flatware, but stainless steel is very attractive. Well, can we give that up? Perhaps we could, we could use aluminum, or we could use chopsticks. If I am hungry I can probably find some other way to make do. [Laughter.]

But there are a myriad of possibilities for adjusting our economy to the fact that certain raw materials might not be as easily available as they had been previously.

Mrs. SNOWE. Mr. Legvold?

Mr. LEGVOLD. I am not qualified to comment on the problem from a technical point of view. My interest is in the Soviet political dimension of the issue. Nonetheless, I do have a brief thought on the comparison with the Persian Gulf and oil.

First, in the case of oil, the issue has been cartelization in order to affect price. The issue has not been essentially one of using oil as an economic sanction, though briefly that did figure in the Arab oil embargo following the 1973 war.

Second, if there is a risk of cartelization in strategic nonfuel minerals, you have picked the most likely candidates. This, however, must be weighed against the likelihood that most other commodities are not candidates for cartelization.

On the three commodities which you mention: Of 24 industrial minerals that are imported, on which we are more than 50-percent dependent, it is these three which come in the highest percentage from one or two countries in southern Africa—chromium, cobalt, and platinum. Of those, two—chromium and cobalt—pose something of a problem. Platinum is not an essential issue in my judgment.

In the short run, cobalt and chromium are a problem because you cannot make easy substitution and the market is not going to respond quickly enough with increased domestic supplies. The only answer is stockpiling in these areas.

In the longer run there may be substitution possibilities. Increasingly there is crossover in other minerals; for example, between copper and aluminum.

Mrs. SNOWE. Is that likely to occur, cartelization?

Mr. LEGVOLD. I think not. There may be mini-cartels, as there already is in cobalt between Zambia and Zaire, but these obviously do not carry the consequences of an OPEC.

Mr. WOLPE. Mr. Price?

Mr. PRICE. Let me make two types of comments. One in relationship to the problem of cartels. I just want to stress the point I have already made, that while OPEC's cartel has had a very significant effect on the price of oil, one should not make the same analogy toward a cartel in chromium, for example, that a cartel could well jack up the price of chromium, say, 300 percent. That would not have the same kind of dramatic effect on the end product, in this case, stainless steel.

So, cartelization is not as much as a problem in terms of our own economic health in these nonfuel minerals as is true in the case of petroleum.

The second point I want to make is not in regard to the technical question in respect to these minerals, but to the political premise of your question. That relates, I guess, more closely to the question of intentional cutoffs, resource denial strategies.

The analogy was in the Middle East, the Persion Gulf, particularly the Arab States in the Persian Gulf to southern Africa.

I think it is important to stress about that analogy that it is probably a misplaced analogy because there are very special political and economic circumstances which permit the Arab countries in the Middle East to engage in a policy of resource denial.

That special quality is that the size of the population of these Arab countries relative to the surplus that is generated from petroleum is such that these countries essentially lack the absorptive capacity within themselves to utilize all of the resources generated through the sale of petroleum. Consequently, they are investing these resources in New York City, and London, and various other places.

In contrast, the African countries we are talking about, South Africa as well as black African countries, do not have the same problems with absorbing their surpluses of the revenues generated by exports domestically. To the contrary, they have a scarcity of things and they are utilizing—sometimes wisely and sometimes unwisely—but the point is that they are utilizing them internally.

Whereas a cutoff of oil does not dramatically affect the political viability and the economic viability of a country like Saudi Arabia, the cutoff of these nonfuel minerals for the African countries would be more threatening to the economic health and the political viability of the southern African countries than it would be to the targets of that cutoff, of that resource denial.

That is the thing that constrains the African situation in a way in which the Persian Gulf situation is not constrained.

Mrs. SNOWE. If I can just follow up on that. I just recently read an article about the state of Saudi Arabia and the very fact that they are so dependent upon that export of oil because they are building up internally their country socially, economically, culturally, and that in fact they can ill afford to cut back on their exports. They projected billions of dollars into the future in terms of what they need, the minimal amount of their oil.

Mr. PRICE. They could transfer resources from New York City back to Saudi Arabia. If they are constrained, I think it is the personal wealth.

Mrs. SNOWE. They made certain commitments within Saudi Arabia. What I am saying is I do not think they can retrench as easily as you suggested.

Mr. PRICE. I think the greater restraints in this regard are their investments in the industrial countries. The Saudi Arabians cannot afford a major depression in the industrial countries because they have so much invested there. It is not a domestic constraint; it happens to be a constraint of their foreign economic policy.

Admiral MOTT. They might have to sell back Arthur Godfrey's horse farm.

Mrs. SNOWE. I think the level of export is important to Saudi Arabia.

Mr. PRICE. If we can make the same distinction in this regard, what to do about American interests. We have many interests; only certain of those are vital. The vital interests are those that affect in some way, a dramatic way, our survival.

So, yes, the Saudis do have an interest in exporting oil, a large amount of it. But their interest is not as vital in doing that. They can survive cutbacks in a way that the African countries cannot.

Admiral MOTT. Mrs. Snowe, I wish you could somehow or other throw a checkrein around the people that manage the stockpile because they go by the philosophy of buying high and selling low.

You would not believe that they sold off cobalt some years ago, in a budget balancing act, for $2 a pound; and this $100 million that you are reading about, they are about to buy it back at $15 a pound. Now they are going to sell off silver when silver is at an all-time low, and if we really need silver again, then they are going to buy high.

You should not let them do that.

Mr. WOLPE. Mr. Severin?

Mr. SEVERIN. One little comment is that we have talked so much about cartels, but you know, they are not all that bad in a way.

We can get along with them because in the last analysis they could be out of existence in no time at all if there was some form of total denial operation. Obviously, they have to keep their business going because they have the supply materials that they want to dispose of at a favorable price. They can hold them off, but eventually they are going to have to move them along.

You referred to some of the situations that the Saudi Arabians have once they reach the point, they may have aspirations to develop their own economy, develop alternative internal types of activities that will be more viable over the longer run as the importance of oil diminishes and their supplies eventually are exhausted.

But cartels can be lived with, and we have benign ones in a sense. You might say diamonds, for example, represents a rather benign cartel. You talk about the DeBeers outfit that exists. They have control of perhaps 80 percent of the market. Certainly, they control the price. There has been a steady, methodical increase in price over the years, more or less commensurate with the growth of inflation.

I think more people would be unhappy if that thing broke up than would be happy. You can talk about a young couple going out, saving up $2,000 or $3,000 to get an engagement ring. The young lady reluctanty agrees and says, "Well, if you want to buy it for me, all right, instead of putting a downpayment on a house, go ahead."

If they bought that ring and the next day the bottom dropped out of the market they would be very unhappy about it. Retailers, too, would have the same problem. So, I am not saying diamonds are forever—although DeBeers has certainly tried to promote that idea.

But we can adjust to live with cartels in some form or another, though we certainly do not have any high esteem for them.

Mrs. SNOWE. Thank you.

Mr. WOLPE. I would like to pursue the question of diamonds. What is the degree of cooperation today between South Africa and the Soviets in terms of diamond and gold production and marketing, Mr. Price?

Mr. PRICE. I think there are others on this panel that are probably better equipped than I am to handle this. I think it certainly is clear that the Soviet Union is involved with DeBeers in the marketing of diamonds. But beyond that, I think some others might comment.

Mr. WOLPE. Who could comment on that?

Admiral MOTT. Industrial diamonds or the other kind?

Mr. SEVERIN. I think they are both involved. In terms of the monetary significance, of course, the gemstones so far outweigh the industrials that the importance is rather limited. Of course, there are specific applications where industrial stones are needed, and that poses another problem. But I do not think that is too germane to this particular question. There are all sorts of synthetics that are coming along that can serve some of these purposes.

But I think the common notion is that certainly there is an ongoing relationship between the Soviets and DeBeers in the marketing of diamonds. It might be interesting to point out that the Soviets have also gotten into the business of selling polystones on their own. So, they are doing a little business in that area.

But the ongoing relationship is a good arrangement for all concerned. The Soviets, I think, realize the type of benign control I have just referred to, they may as well not rock the boat themselves too much, go along with the arrangement and benefit over a period of time.

The question of gold is another matter and here I know of no precise relationship. I think there was an article recently in the Economist in London that pointed out the possibility of some sort of an effort on the part of the South Africans and the Soviets to get together. Someone saw someone at the Moscow Bolshoi and they said, "Oh, what is going on here, are they trying to work out some arrangement to control the sales each year to try to keep the price up a little?"

They should be quite dismayed by this morning's news that gold had fallen below $400. So, perhaps they will redouble their efforts and cook up something. But as far as I know there is no formal arrangement that exists to try to do just what you are talking about.

Mr. WOLPE. Would anybody else care to comment?

Pursing this a step further, what about the Soviet Union's dependency on Africa, are there dependencies the Soviets have upon Africa?

Admiral MOTT. The four metals that you have mentioned in your letter, I prepared two charts (figs. 6 and 7) which you have before you, sir, that show the relative dependence of the United States and the Soviet Union on manganese, cobalt, chromium, and platinum, which are known as the big four in this area. I have no doubt that is why you mentioned it.

We are in the 90-odd percentile of import dependency for every one of the big four minerals that you mentioned—manganese, cobalt, chromium, and platinum—in the 90-odd percentile.

The Soviet Union is not dependent at all. They have sufficient of these four minerals. That does not mean that they would not buy them.

One of the loveliest, maybe the loveliest Soviet defector ever, a woman who is coming over very soon, a woman by the name of Galina Orianova who defected from Georgy Arbatov's American Institute of Disinformation said:

> I do not know why you people in the West should be so surprised about the fact that the Soviets want these minerals and want to deny them to you. What is there surprising about that? The Soviet Union is just like the ordinary consumer in Russia, if they hear that there is something in the department store they will line up for two blocks, whether they need it or not. The Soviet Government is no different, they will go for these things.

If they can get a dollar-a-barrel oil from Saudi Arabia they are not going to spend $18 a barrel to get it out of the permafrost, they are going to go down there. This is of course one of the reasons why they went into Afghanistan. They can get gas from Afghanistan in great quantities and sell it to the West.

So, I do not think they have any real dependency in the area of the four big minerals that you have mentioned.

Mr. WOLPE. Outside of those four?

Admiral MOTT. Well, they do have some dependency and you will find it on the chart (fig. 7) which came from the Bureau of Mines—they have a dependency for aluminum of about 40 percent. They have a dependency for tin, fluorspar, tungsten, and barite. Those are the four that I have marked on this chart that shows their dependency.

I will give you a set of these charts, sir.

Mr. WOLPE. Thank you. Would anyone else care to comment on that?

Mr. LEGVOLD. As a general matter Admiral Mott's basic point is correct. The Soviet relationship with the African countries in nonfuel strategic minerals does not add up to dependency. Soviet involvement is simply not on the scale of U.S. involvement.

Indeed the only mineral where the Soviets are more than 40 percent import dependent is cobalt, and most of that comes from Cuba.

But the issue of dependency is separate from Admiral Mott's other point. Where the Soviets may be inclined by some calculation of comparative advantage to enter outside markets, they are likely to do so. Either as a result of declining ore grades or as a consequence of production bottlenecks at home, the Soviets may turn more and more to global markets.

They have become more active in African markets in the last part of the seventies. But not to a level creating dependency. Not only did they buy those 300 tons of cobalt on the eve of the Shaba business, which can be interpreted in various ways, but they came back the next year to buy more than 2,000 tons of cobalt from Zambia and Zaire. The East European countries have from time to time bought fairly sizable quantities of manganese from Gabon.

On the other hand the Soviets have long taken the lion's share of Guinea's high-grade bauxite exports. But this may have created a greater dependency for Guinea than for the Soviet Union.

Mr. WOLPE. If I understand the thrust of your testimony, to the extent that there is a consensus of view on anything on the panel this afternoon, it seems to me two points are emerging.

One is that in terms of the basic minerals that have the greatest importance for the United States in strategic terms, the Soviet Union is not dependent upon us. That is, there is not a Soviet drive.

Mr. LEGVOLD. External sources, you mean?

Mr. WOLPE. And resources. They are essentially self-sufficient in those specific mineral resources. There may be other reasons, economic difficulties or simply if they get a better price in the market.

Admiral MOTT. They bought chrome when we had the embargo on in Zimbabwe. They had their own chrome and sold it to us at a profit.

Mr. WOLPE. But then, in strategic terms, that is not something that is likely to precipitate a major aggressive response by the Soviets in the immediate future, or even the long-range future.

The second kind of consensual statement that I think emerges here is that if there is a likelihood of any interruption to supplies that are important from the standpoint of the United States, it is more likely to come as a consequence of internal political instability or regional political instability, rather than as a consequence of overt, aggressive action by the Soviet Union or any other party for that matter.

Would that be a judgment with which the people on the panel would concur?

Mr. LEGVOLD. I would.

Admiral MOTT. I would only dissent, sir, with respect to the fact that—as I said in my statement—that the invasion of Shaba Province—not once but twice—which caused the French to drop parachutists in to put down the invasion—incidentally, they flew in American C-130's to get there, that is about as far as we would go. But that was pretty far for Carter.

As I say, the people that invaded Shaba Province were trained, organized and led from Soviet-Cuban bases in Angola. I think it was a deliberate attempt to deny these minerals to people that they did not want them to have.

The question I think you have to ask yourself is, so the French rescued us twice——

Mr. WOLPE. Let me just pursue that for a moment because I think it is an example of the kinds of things that give us some difficulty.

Admiral MOTT. Well, I have to ask just one question, would Mitterand do it? I do not think he would.

Mr. WOLPE. Well, just taking this specific example of the Shaba invasion to which you refer, from the action I think there is a very different interpretation to be placed upon what was taking place in the Shaba invasion.

Indeed, I think many African countries, Zaire and Angola would interpret what the Shaba invasion was probably more as a consequence of the conflict between Angola and Zaire on the one hand, and as a consequence also of the continuing ethnic division between Zaire itself on the other, in which there may well have been some Cuban and Soviet involvement in terms of the training. But it was more a case, I think, of the "cold war" adversaries giving support to groups that were in conflict for quite other reasons within that region.

I mention that particularly because of the subsequent developments in which Angola, as you are aware, cooperated with the United States in stabilizing the situation subsequently between Zaire and Angola. Indeed, very recently as a consequence of the Clark amendment discussions in this country, it is my understanding that Zaire became alarmed not as a consequence of cold war implications, but a consequence of regional implications that the lifting of the Clark amendment would be viewed utimately as a hostile act toward Zaire. That the Angolans would become very concerned that Zaire was cooperating with the United States, the Western Powers.

I guess I would be interested in your reaction. Is it not possible that indeed the dynamic of what was taking place in the Shaba invasion was much more related to local conflicts and regional rivalry, and had far less to do with the Soviet-Cuban manipulation?

Admiral MOTT. I would accept that it would not have happened had the Cubans and the Soviets not been there to do the training.

Mr. WOLPE. I understand. But then the issue becomes, how do you deal with it? If indeed the threat of the greatest likelihood of interruption of supplies is political instability of a regional sort within any country, then that focuses our attention on the cause of the instability within the region of that country.

What I am trying to suggest—and this is the only point at which I would at least ask that we ask the question of whether or not an examination of problems of political nature in Africa, in terms of analysis of Soviet intentions and operations, may not take us afield to achieving the goal of political stability. That indeed Cuban troops are present in Angola for reasons that have to do with South African incursions into Angola.

Does that not suggest that we ought to be dealing with fundamentally the Namibian conflict and South African incursions as our first point of reference?

Admiral MOTT. They are not only in Angola, sir, they are in 11 other countries. They are in South Yemen, and they are in Afghanistan. They are all over the place.

Furthermore, they can be shifted from one country to the other tomorrow by Soviet transports. They are there as surrogates of the Soviet Union, make no mistake about it.

Mr. WOLPE. That is not the question I am asking. The question is, how do we develop policy that is most likely to eliminate their

(May 2, 1921):

> If Europe and America may be called the front or the arena of the major battles between socialism and imperialism, the unequal nations and the colonies, with their raw materials, fuel, food and vast store of man-power, must be regarded as the rear, the reserve of imperialism. To win a war it is necessary not to triumph at the front, but also to revolutionize the enemy's rear, his reserves. Hence, the victory of the world proletarian revolution may be regarded as assured only if the proletariat is able to combine its own revolutionary struggle witb the liberation movement of the labouring masses of the unequal nations and the colonies against the rule of the imperialists and for the dictatorship of the proletariat. (J. Stalin Works, Vol..5, pp. 57-58 /Moscow, 1953/)

Was the doctrine changed after "deStalinization"? Not at all. It has been echoed and reechoed by Soviet leaders from Khrushchev to Brezhnev. Thus, Khrushchev presence and reduce the dependence of whatever countries have these troops.

Mr. SEVERIN. If I may make just one comment, getting back to one of your original points which I believe was your point, one of the aspects of it, considering the Shaba invasion itself.

I think the crux of the matter is that if one were to accept the fact that they were surrogates of the Soviets, that it would not have developed if they had not been there. All well and good.

But if there were some intention to really interfere or adversely affect the supply of cobalt, they only did a partial job because there was a little interruption. They botched the job in the sense that if they had wanted to really deal a damaging blow, a crippling blow, they would have gone ahead and destroyed the facilities. To my knowledge that was not done.

Now, the question is, why did they not do it? Were they really instructed to do so and then lost heart; or went on a binge one night and forgot what they were supposed to do? I just do not know.

But I find it hard to follow the idea that the Soviets had these surrogates down there who were going to inflict damage on these facilities that would adversely affect those who needed cobalt from that area because, as I understand it, production has resumed. The situation down there has turned around quite a bit. They are having problems, of course, selling their cobalt right now, thanks to the rise in prices.

Mr. WOLPE. I think the point that you are making is important. Really, the same questions could be raised on the debate about El Salvador. I have no question whatsoever that there is nothing the Soviets and the Cubans would like more than to be able to exploit whatever chaos and instability exists within that country. That is not the issue.

The issue is, how do we best resist that effort by the Soviets and the Cubans? I think most of the people who are knowledgeable about Latin America recognize that what is taking place in El Salvador is anything but something that is primarily produced by external intervention. There are local, indigenous causes of their conflict.

I think something else ought to be applied as we look at Africa. We get ourselves into great difficulty if we misunderstand the causes of the conflict. Mr. Price?

Mr. PRICE. I would really just simply concur with what I think is your analysis, not just your suggestion about what went on in respect to the two Shaba invasions.

I would just add one point to strengthen something Mr. Severin mentioned. My recollection of the evidence that was made public at the time of the second Shaba invasion—primarily I think from French and Belgian sources—the Shaba rebels actually took pains to avoid damage to the mining facilities. Other than understanding the steps they took as a way to preserve the one thing that actually makes Shaba valuable, I do not see how else one would interpret their actions.

Mr. WOLPE. Would anybody else care to comment?

Admiral MOTT. The only problem is that we have counted on the French to pull our chestnuts out of the fire before, and from my reading of France within the last 2 or 3 weeks I do not think France would intervene again. That would leave a military vacuum in the whole area.

It would leave the ballfield to the Cubans and the Soviets, and the East Germans there because I do not think we are going to intervene.

So, the next time, whoever invades Shaba Province will probably succeed in keeping it and holding it, for whatever reasons.

By the way, you do not need to have an invasion to blow up those mines. Those mines could be very easily blown up by saboteurs, probably more efficiently.

Mr. WOLPE. Let me invite, as we come to the termination of this hearing, any of the panel to make any concluding remarks they would like.

If not, I just want to thank all of you for what I think have been very excellent quality presentations today, and I thank you for your testimony.

[Whereupon, at 4:05 p.m. the subcommittee adjourned, to reconvene at the call of the Chair.]

APPENDIX

TABLE I.—WESTERN DEPENDENCY ON KEY STRATEGIC MINERALS FROM SOUTHERN AFRICA

Mineral and alloy/leading southern African source	Percent of U.S. consumption supplied (1976–79)	Percent of EEC consumption supplied (1977)	Percent of free world reserve base	U.S. public/private stockpiles in years of country's supply	U.S. vulnerability to short-term (under 2 yrs) interruptions	EEC vulnerability to short-term (under 2 yrs) interruptions [1]	Western vulnerability to midterm (2–7 yrs) interruptions	Nonstockpile alternatives in midterm interruptions
Cobalt (Zaire)	55	41	43	4.0	Little	Significant	Major	U.S. reserves—20 percent total consumption. Foreign reserves: Zambia, Botswana, Canada, Australia, New Caledonia. Substitution up to 25 percent total use. Recycling up to 15 percent total use.
Chromium (South Africa):								
Ore	46	49	68	6.0	do	do	do	Foreign reserves—Zimbabwe. Substitution up to 33 percent in stainless steel. Increased recycling.
Ferroalloy	40	([2])	NA	3.5	do	do	do	Do.
Manganese (South Africa):								
Ore	15	41	75	24.0	do	do	do	Foreign reserves—Gabon, Brazil, Australia, India, and Mexico.
Ferroalloy	42	([2])	NA	1.5	do	do	do	do
Platinum group metals (South Africa).	60	50+	98	2.0	do	do	do	Foreign reserves—Zimbabwe. Recycling of up to 70 percent of major use as catalysts. Substitute catalysts. Reduction in nonessential uses (especially jewelry in Japan).

[1] No Government stockpiles in EEC except France.
[2] Unknown.

TABLE II.—*The implications of some Western strategic minerals vulnerability: Is there a resource war in southern Africa?*

Yes	*No*
1. There is a danger of new southern Africa OPEC's withholding supplies from and raising prices to the West, with the encouragement of the Soviets.	1. Southern African countries are very unlikely to behave like OPEC because: They are much weaker economically and more dependent on the West; the West has more stockpiles, substitutes, and alternative sources than it had with oil.
2. The Soviet bloc increasingly needs southern African strategic minerals as recent imports of cobalt, chromium and manganese (and declining exports of platinum) indicate.	2. The fundamental policy of Soviet bloc self-sufficiency in strategic minerals has not changed; recent imports were minor and temporary.
3. The Soviets could gain hegemony over key southern African states, expecially with their new military reach, and use their minerals to coerce or economically weaken the West.	3. African states of all ideological complexions are very unlikely to permit Soviets and Cubans to manipulate their resources against the West because their national economic development depends so significantly on Western capital, technology and aid, eg., pragmatism in Angola, Mozambique, and Guinea. Also, any attempt by the Soviets to actually use economic warfare against the West would result in Western economic retaliation.
4. There is a danger of the shutting down of key southern African mines and transport routes due to civil strife promoted by the Soviets and Cubans.	4. Such strife may well occur in the next several years. However, minerals supply interruptions are likely to be short term and intermittent rather than enduring—due to the expected military intensity of conflict and the combatants' stake in selling resources.
Policy recommendations	
1. Closer political and security relations with friendly anti-Soviet regimes and forces in Southern Africa that are reliable suppliers of minerals to the West.	1. Normal diplomatic relations with all states in region; no undermining of any regimes. Some "distancey" from regimes where tensions and chances of violent change are high in order to encourage stabilizing reforms and indicate to people and opposition forces U.S. concern with their welfare (to moderate risks of civil strife).

2. Increase attention to building adequate Western stockpile for contingencies, promoting of new foreign and domestic sources of supply and transportation, encouraging substitution and recycling.

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at the University of Jakarta in 1960 reiterated the theme:

> Afro-Asian countries play an essential part in limiting aggression in an economic respect. They are important suppliers of raw materials for the Western powers. The supporters of aggression understand that when the majority of Afro-Asian countries follow a peace-loving policy, they are unable to count on the use of the rich resources of Afro-Asian countries in their aggressive plans. (Radio Moscow Broadcast, 22 Feb 1960 (V))

Another source of persuasive evidence that we are involved in a "resource war" with the Soviet Union are Soviet defectors who give us details of the doctrine. Just a few days ago I journeyed to London to interview a defector from the KGB who is still under British protective custody. He had a hair-raising escape from that great center of Soviet espionage, Geneva, Switzerland. In a safe place, he spoke freely of KGB operations.

Knowing I might be asked to appear here, I put the central question you are asking me to him--Ilya Dzhirkvelov:

Q. There have been reports in the West that it is official Soviet policy to wage what has been called a "resource war" by progressively denying the West access to vital raw materials. In your KGB experience, did you hear talk about the "resource war," could you tell us what you know about the direct involvement of the KGB in this war?

A. The Soviet Government has been paying much attention to the "resource war" since the mid-Forties. It started with oil. As early as in 1945 or 1946, a Soviet-Iranian oil company called Kivirhurian was formed. The Soviet director of the company was the KGB officer Artavazd Mangasarov, a trained oil specialist. The aim was to build a pipeline for getting cheap oil from both Iran and Bahrein and gradually make the Soviet Union their only customer. These plans were thwarted by Mossadegh, who, on seizing power in Iran, immediately nationalized all Soviet-Iranian companies. Very significant from the point of view of the "Resource War" was the turn in the long-range Soviet policy towards the Arab countries and Israel. I remember how surprised we were in the KGB when it became clear that the Soviet Union froze her relations with Israel--initially very warm-- and took the side of her Arab foes. Our opinion was that Israel, a predominantly socialist country, well-disposed to the Soviet Union, was a much more useful ally in the Middle East than any Arab country. Israel could have become an excellent vehicle for intelligence and other penetration into the U.S.; indeed, the saying was that whatever would happen in the U.S. tomorrow was already known in Israel today. Yet the Soviet leader--then Stalin--decided to support the Arabs against Israel, and the reason, we were told, was oil. The anti-Communist mood of the late Egyptian president Nasser was ignored; it was his pan-Arabic designs that tempted the USSR to gain control of oil deposits in the Middle East. This long-term policy has been carried on since. It is worth stressing that at that time the USSR had virtually unlimited oil resources and therefore the Soviet interests in Middle East oil was clearly political: to deny the use of oil to the West. In 1971, when I was the TASS correspondent in the Sudan, the Foreign Trade Minister of the USSR, Patolichev, visited that country. He spoke to Soviet personnel in Khartum on the aims and methods of Soviet foreign trade. He mentioned as an achievement the new treaty with Iran on supply of the natural gas which, according to Patolichev, the Soviet Union could resell to the West at good profit. But he also stressed that, trade advantages aside, oil and gas had first of all great strategic and political importance. 'Stalin himself understood it well,' said the Soviet Minister.

As for the role of the KGB in the "Resource

War," it is serious enough. Both KGB and GRU are gathering intelligence worldwide of the availability of various resources--to enable the Soviet leadership to ace precisely in the way which would hurt the Western countries most. Then, the KGB is ordered to concentrate its efforts on the countries important for their mineral resources--both to obtain more information and to influence the events in those countries. Stalin's goal of depriving the West of the mineral resources of the planet is still pursued.

Even Dr. Andrei Sakharov warns us in his book, My Country and the World and in his article entitled "Nuclear Energy and the Freedom of the West" (KONTINENT, No. 16, 1978) that the Soviets have designs to deny strategic materials to the West. He confirmed the more recent statements above of Dzhirkvelov, the KGB defector, with respect to Soviet designs on the oil of the Middle East.

Apparently, some of the evidence I have cited above has convinced the leaders of the present administration that there is a resource war. Thus, Gen. Al Haig has testified before another Committee of this House:

> As one assesses the recent step up of Soviet proxy activity in the Third World in Angola, Ethiopia, Southern Yemen...and the December 1979 unprecendented invasion of Afghanistan by regular Soviet forces--then one can only conclude that the era of the 'resource war' has arrived. (emphasis added) (Hearings on Resource War: Minerals Held Hostage. House Committee on Interior

and Insular Affairs, 1980)

Similarly, Bill Casey, Director of Central Intelligence (and a founding director of the National Strategy Information Center, Inc., my organization) gave his views on the "Resource War" in a speech to the U.S. Chamber of Commerce:

> Roughly a decade ago, we received a jolt. Shifting geopolitical patterns, coupled with rising Third World nationalism, sharply tempered our expectations. The oil crisis of 1973 was the first time we could actually see and feel the crushing impact of international 'non-military warfare' strike us squarely where it hurts the most--in our pocketbooks and in our life styles.
>
> That crisis still haunts us with a new reality. Others, well away from our borders, can now place their hands on our economic throttles and on our economic throats. International tensions and threats are not limited to military ones. There are other power projections far more subtle because they are

largely unseen and thus not readily perceived. Senator Goldwater has warned of the dangers of being caught short without an adequate game plan to deal with it. We would lose access to the minerals chromite, cobalt, tantalum and others, as Senator Goldwater told us. It would mean massive shocks to our economic system and current life-styles. Without these minerals, we cannot make TV sets or computers or heart-lung machines or produce high-grade stainless steel for a thousand uses. The implications for our defense capabilities are just as grim. No supersonic jets and no sophisticated submarines. In the future, we can expect to be in competition with the Soviet Union for both oil and non-fuel minerals. They have both in Siberia, but the technological developments needed and the cost will make it prohibitive for some time to come. In response, the Soviet Union is moving toward a policy of selective and strategic dependency on foreign resources. This is an alternative to the exceptionally high capital costs of their extending their own self-sufficiency.

Add to this a growing trend in the Third World in which ownership and control of natural resources are changing from commercial to state dominance. This historic change provides the political environment for Soviet access to Third World natural resources. Soviet support for state ownership and control in the Third World creates a potential for non-market state trading corporations through which the flow of minerals can be organized as barter. This expansion of non-commercial minerals resource control, combined with Soviet power-projection capabilities is raising acute concern about Soviet access strategy in the case of Persian Gulf oil and South African minerals. And I can spell out to you how that is being developed.

If I were to pick the two officers of the Executive Branch I'd want on my side in any dispute as to whether or not there existed a "Resource War in southern Africa," they would be the man in charge of formulation of foreign policy and the man in charge of collecting and evaluating intelligence. In view of the evidence, there should be no dispute.

Turning now to question number two in Chairman Wolpe's letter to me:

> 2. Is there persuasive evidence that Soviet foreign policy in southern Africa aims strongly at the withholding or economic manipulation of strategic minerals so as to weaken the West economically, politically and militarily? Has past Soviet behavior during Rhodesian chrome sanctions or at the time of the Shaba crisis in cobalt-rich Zaire, for example, clearly manifested such an intention and what was its actual impact?

It is generally accepted that during the U.S. imposed embargo on purchase of chrome from Rhodesia the Soviet Union, subject to no such restrictions, acted as middleman and bought chrome from that country and sold it to the West at a profit. Similarly, they are alleged to have made large purchases of chrome just before the invasion of Shaba province by forces "who were trained, organized and led from Soviet-Cuban bases in Angola first in 1977 and then in 1978" (See AFL-CIO Free Trade Union News at p. 7 and Report of Subcommittee on Mines and Mining of the Interior Committee of this House, July 1980 at p.13.)

We must realize that the Cubans did not walk across the water from Cuba to Angola or the eleven other countries where they have a presence in Africa. They were brought there by Soviet transports, and they, like the East Germans, are there as surrogates of tbeir masters in the Soviet Union. The aim of those masters as clearly described by the KGB defector, Dzhirkvelov, is "control" of people and resources. The actual impact of the invasion of Shaba, of course, was to nearly quintuple the price of cobalt within weeks.

The cobalt supply line from Zaire was saved by French parachutists flown in by American C 130s. But we must ask ourselves--would Mitterand do it again, if Shaba were invaded?

3. How important is the Cape route for Western access to strategic minerals? Is there evidence that the Soviet Union, as part of its military strategy, contemplates the interdiction of mineral supplies along this route, and does it have the capacity to implement such a policy?

Twenty-six thousand ships a year use the Cape route, carrying oil and minerals to the West. That figure alone makes it one of the most strategic waterways in the world. Since 1968, Soviet naval presence in the Indian and South Atlantic Oceans has been growing steadily, and their military strategy clearly contemplates interdiction of vulnerable shipping lanes, including this one. It certainly has the capacity for such interdiction. Of course, interference with shipping on the high seas is a hostile act and would very probably lead to war, quickly turning the "Resource War" into a "hot war."

4. Of the various scenarios for risks to Western supply of strategic minerals at feasible prices from southern Africa, which are most likely? (e.g., unilateral cutoffs by current governments to extort policy concessions by the U.S., unilateral cutoffs by pro-Soviet radical successor regimes, manipulation of prices by existing governments through monopoly pricing of cartels, manipulation of prices by pro-Soviet, radical successor regimes, violent civil war leading to either supply interruptions or higher prices or both, etc.) What is the likelihood of long and uninterrupted cutoffs rather than intermittent and relatively brief ones?

All kinds of "worst case" scenarios could be fashioned in answer to this question. The Office of Minerals Policy and Research Analysis of Interior authored a Pilot Study in 1979, for instance, which estimated there was a

60 percent chance of disruption of cobalt supplies in each of two years, this year (1981) being one of them. Gen. Haig, in his testimony before the Mines and Mining Subcommittee, outlined his own worst case scenario, both with respect to our European allies and with respect to his own (then) company, United Technologies:

> Well, I think some of the worst case manifestations, Mr. Chairman, we can witness today as we watch valued allies, crucial allies--Germany, for example--faced with great uncertainty about our American policies here and the access to raw materials here in the Western Hemisphere turning to the negotiation process with the Soviet Union for exploration and provision for raw materials.
>
> Now, these things never happen in sudden bits and pieces. They acquire momentum of their own and when you combine these resource drifts, if you will, based on a waning confidence in America and its leadership across a whole spectrum of international activity, from economics to national security to energy to now these raw materials concerns, why, then the bonds,

the bonds, that have held Western nations together in concerted fashion since the Second World War begin to erode and we see signs of that today.

Now, a worst case, Mr. Chairman, of course, could face us with the situation where our European partners, the so-called 9, had to negotiate with the East--I say Soviet-dominated influence--for the essential raw materials that spawn their economies and keep them pumping.

In West Germany today, some of these materials--chromium, for example--could result in what is estimated to be a 20 percent decline in about a year of their productivity there.

Now, the impact of that in a tightly balanced economy in West Germany could be devastating.

I think it is awfully important that we look at this question not only in the context of the severe kind of confrontational deprivations of raw materials to the West, but more importantly

> in the evolutionary erosive way that I have just described...Today our national stockpile is about 50 percent of the established goal for that very crucial metal /cobalt/ and this is a crucial metal for jet engines because of its ability to withstand the high temperatures involved in our fans. In the case of United Technologies, a lack of cobalt in the period ahead within a year would start a decline of about 25 percent a year in our production capability and it would just be a devastating impact to us.
>
> I think we have got to keep that in mind both in our international concern and in the need for prompt domestic remedies.

I don't personally think there is a likelihood of long and uninterrupted cutoffs but in the unstable world of southern Africa anything can happen, especially with the destablizing Cuban-East German-Soviet presence. We should be prepared for the worst by building up our stockpiles, as President Reagan and the Congress in concert have started to do.

5. To what extent are contemporary political developments and instability in southern Africa the result of Soviet-Cuban policies in the region?

As I have already discussed above and presented evidence from authoritative sources, those policies are the prime movers.

6. How influential is the Soviet Union (and Cuba) in the region? What are the levers and the constraints on use of these levers of Soviet power?

When you have the power of the gun and the men and machines to back it up, influence follows automatically. So long as the Soviets don't make the mistake they did in Egypt and Somalia, that influence will continue, especially if the dictators they are holding up continue to need Soviet-Cuban-East German propping. The levers of power are, of course, arms and the training of men to use them. The constraints are the possibilities of outside intervention and of client alienation, e.g., Egypt.

7. What has been the experience of Soviet-aided regimes and liberation movements in Africa regarding their economic relations with the West? Are there any lessons here for the case of strategic minerals?

So far, I would say that experience depends on the need for hard currency of the client state and its degree of independence. In Libya's case she still continues to sell oil to the West, but we don't know from one day to the next how long that will last. All trade with Afghanistan and South Yemen has ceased, and of course trade with Zaire was cut off during the Shaba trouble. In some cases cessation of trade with Soviet client states is cut off by us, e.g., Cuba.

The lessons to be learned, of course, are to use every means possible to prevent the happening of Soviet control over strategic minerals.

8. What can the U.S. do, in pursuing its southern Africa policy, to reduce the chances of denial of strategic minerals (or extreme price manipulations) from southern Africa?

The first and foremost act of the United States should be to build up its stockpile to authorized levels and encourage its allies to originate and build up their own. This provides a buffer and safety valve in case our southern Africa policy fails. We should also seek other more secure sources of strategic minerals, as has been recommended by executive report after report and Congressional committee after Congressional committee, going back at least 30 years.

Our southern Africa policy should be completely reassessed as the Reagan administration is now attempting.

Reassessing foreign policy in Africa is a delicate, sticky and sometimes messy business, as Mr. Crocker recently discovered. It's much easier to offer advice than it is to implement that advice. I offer the following suggestions:

1. There should be a mechanism set up in the Executive Department, such as the old National Security Resources Board, to review our mineral needs and make recommendations to the President as to how they should be met. There should also be established a Presidential Resource Advisory Board made up of distinguished scientists. minerals users and mining representatives to evaluate our stockpile, quantitatively and qualitatively.
2. The U.S. should take the lead in developing a tri-oceanic strategy through which we and our allies concerned would work together to provide security to minerals production (oil,too!) and transportation routes. Gen. Haig has endorsed

this concept in principle. Meanwhile, the U.S. should increase its naval and military presence in the Indian Ocean by acquiring and improving base rights. We should reassess our self-imposed prohibition of use of South Africa's ports and dry dock facilities. That will require a rapprochement with South Africa which would include the following elements: 1) no acceptance of apartheid. No American can accept this practice; 2) encouragement through quiet diplomacy, influence of labor, church and business groups of elimination of apartheid by evolution not revolution. This means continued use of the Sullivan principles. But there should be no didactic dictation: "Do it our way or else." Our country's record on civil and human rights from 1620 to date is nothing to be proud of. In fact, it's shameful and gives us no right to pound the table and say: "make a quantum leap in human rights to where we think we are today or we won't do business with you!" Someone might ask us how our aborigines have fared under our solicitous care. 3) Extend foreign aid to the countries of southern Africa not just in block money grants but in the kind of aid we know best. Farming techniques, for instance, to teach them how to feed themselves. For example, when Zaire, Zambia and Mozambique were colonies, they were net exporters of food and had positive GNPs. Now they're net importers of food (from, of all places, South Africa!) and have minus GNPs. Surely America could find a way to reverse these discouraging statistics.

Finally, in a word, try to lead and not dictate or set conditions precedent to cooperation and action.

85-890 O - 82 - 3

FIGURE 1

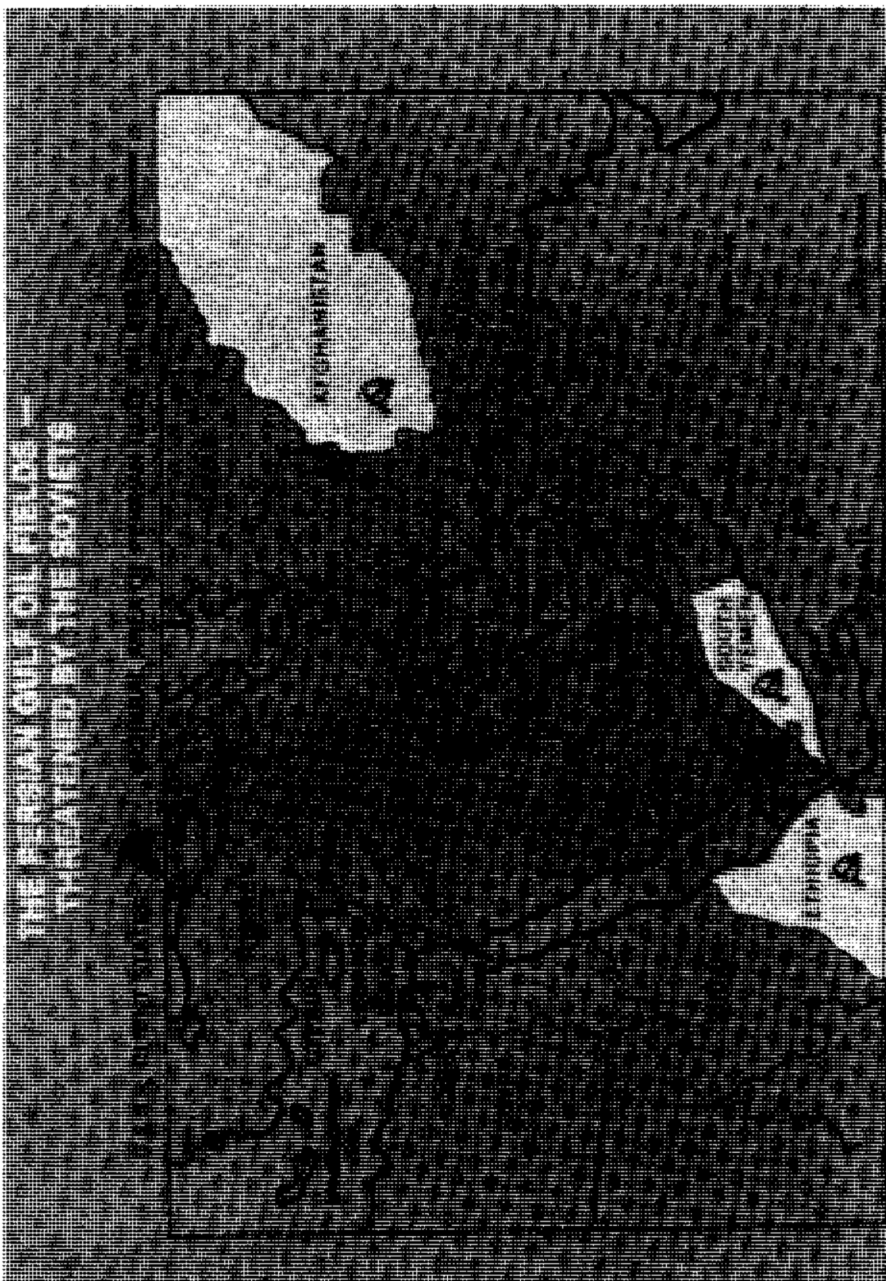


FIGURE 2

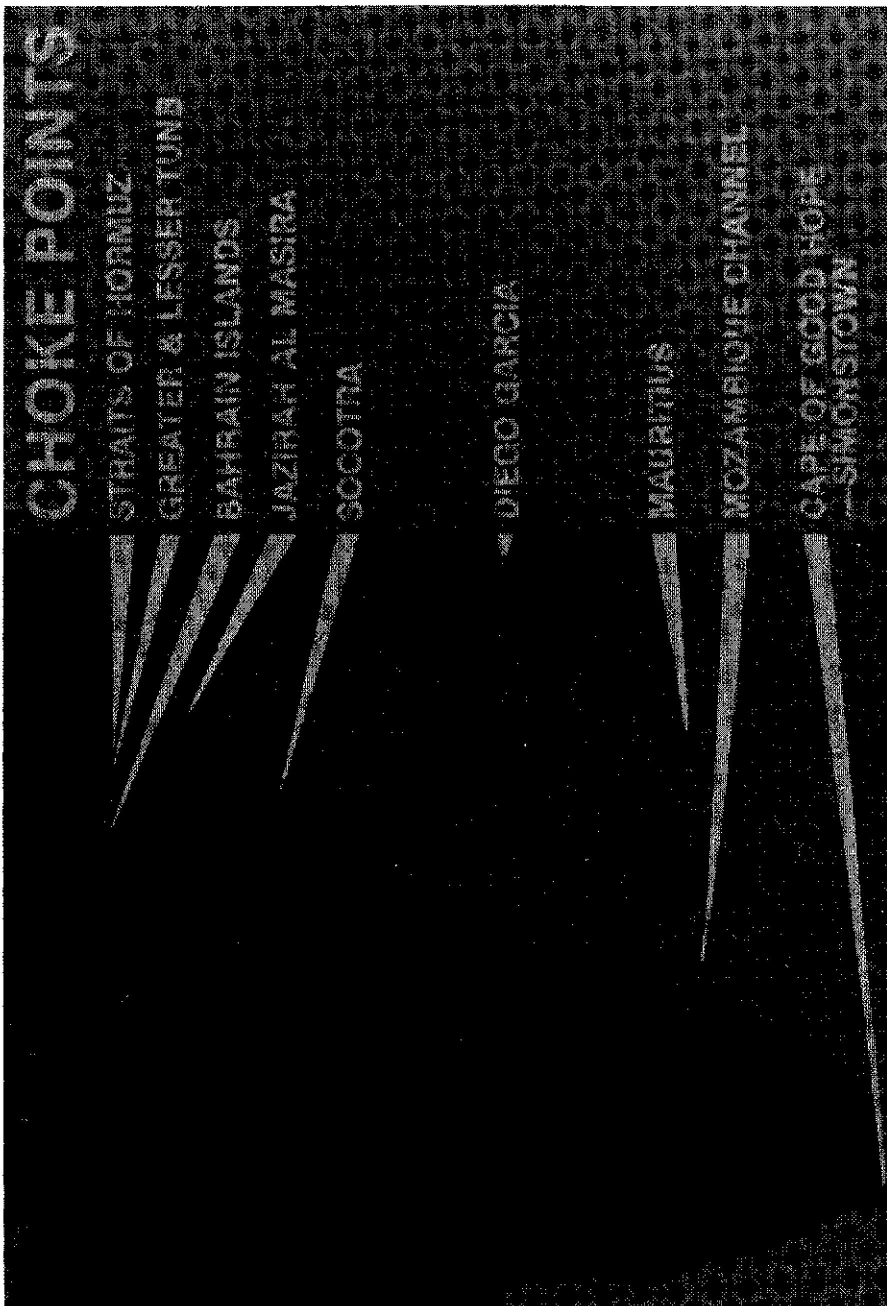

CHOKE POINTS
STRAITS OF HORMUZ
GREATER & LESSER TUNB
BAHRAIN ISLANDS
JAZIRAH AL MASIRA
SOCOTRA
DIEGO GARCIA
MAURITIUS
MOZAMBIQUE CHANNEL
CAPE OF GOOD HOPE
SIMONSTOWN

FIGURE 3


SOUTHERN
AFRICA:
"SAUDI ARABIA"
OF NON-FUEL
MINERALS
(ABOUT 1/4
WORLD'S
SUPPLY)
ZAIRE
ANGOLA
ZAMBIA
ZIMBABWE
NAMIBIA
BOTSWANA
SOUTH
AFRICA

FIGURE 4

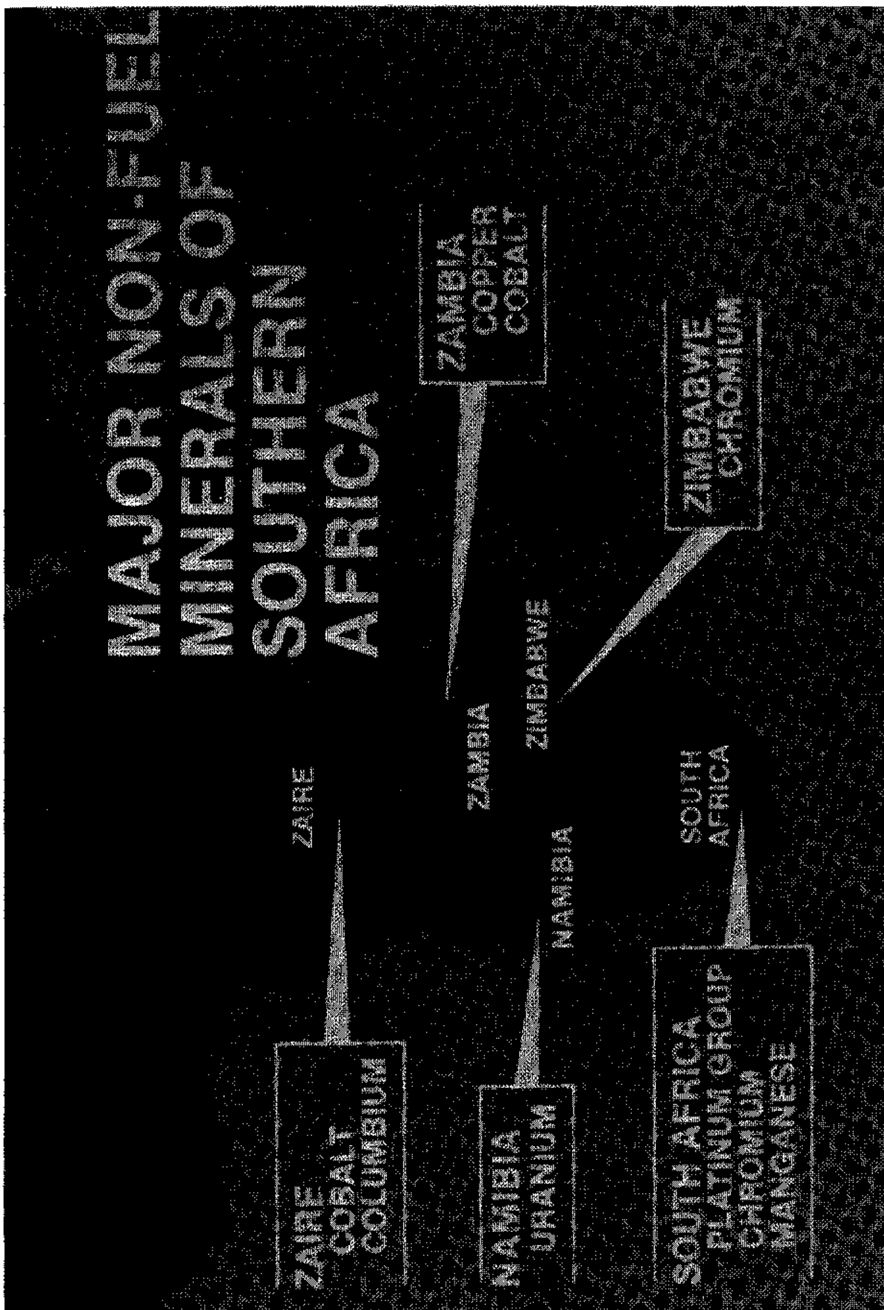

MAJOR NON-FUEL
MINERALS OF
SOUTHERN
AFRICA
ZAMBIA
COPPER
COBALT
ZIMBABWE
CHROMIUM
ZAIRE
ZAMBIA
ZIMBABWE
NAMIBIA
SOUTH
AFRICA
ZAIRE
COBALT
COLUMBIUM
NAMIBIA
URANIUM
SOUTH AFRICA
PLATINUM GROUP
CHROMIUM
MANGANESE

FIGURE 5

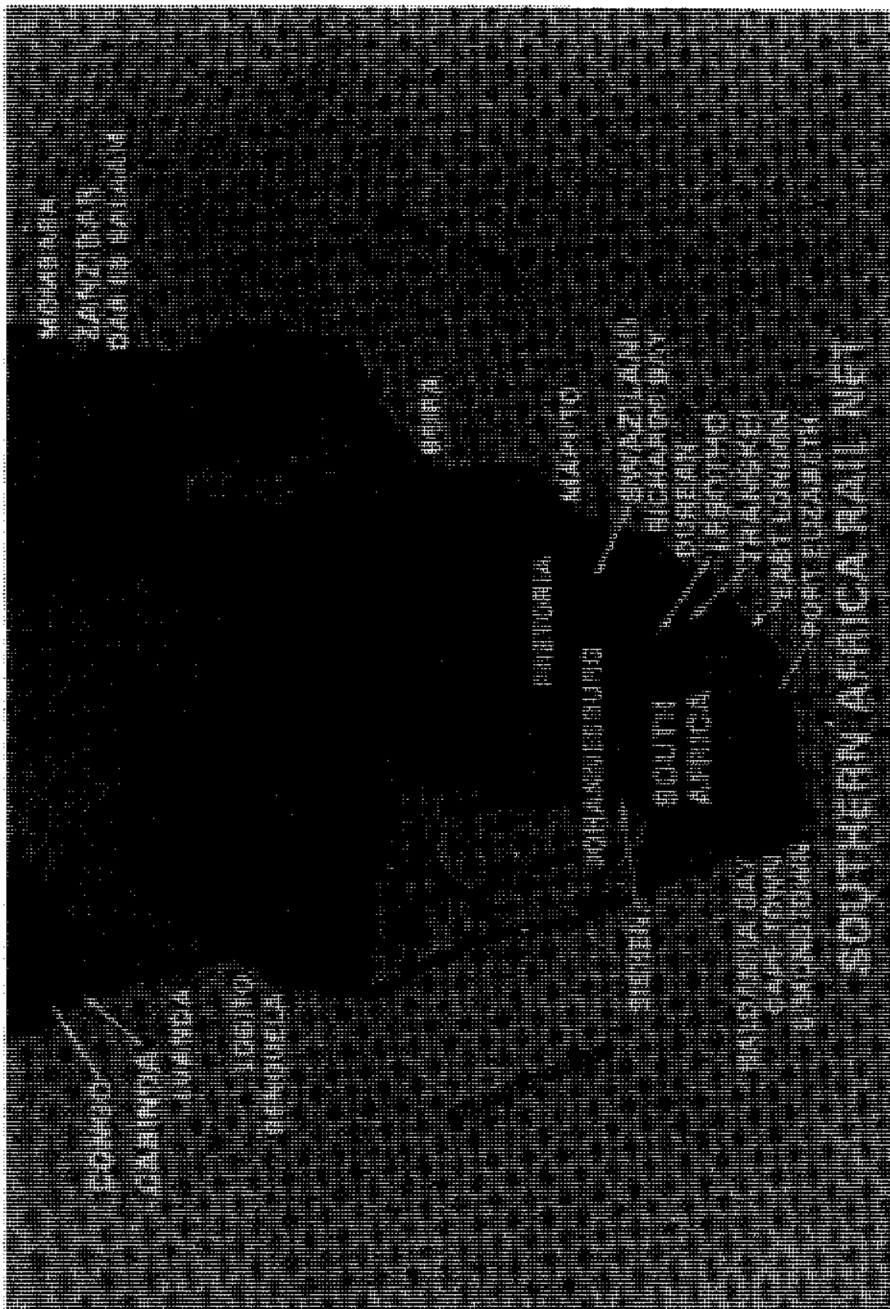


FIGURE 6

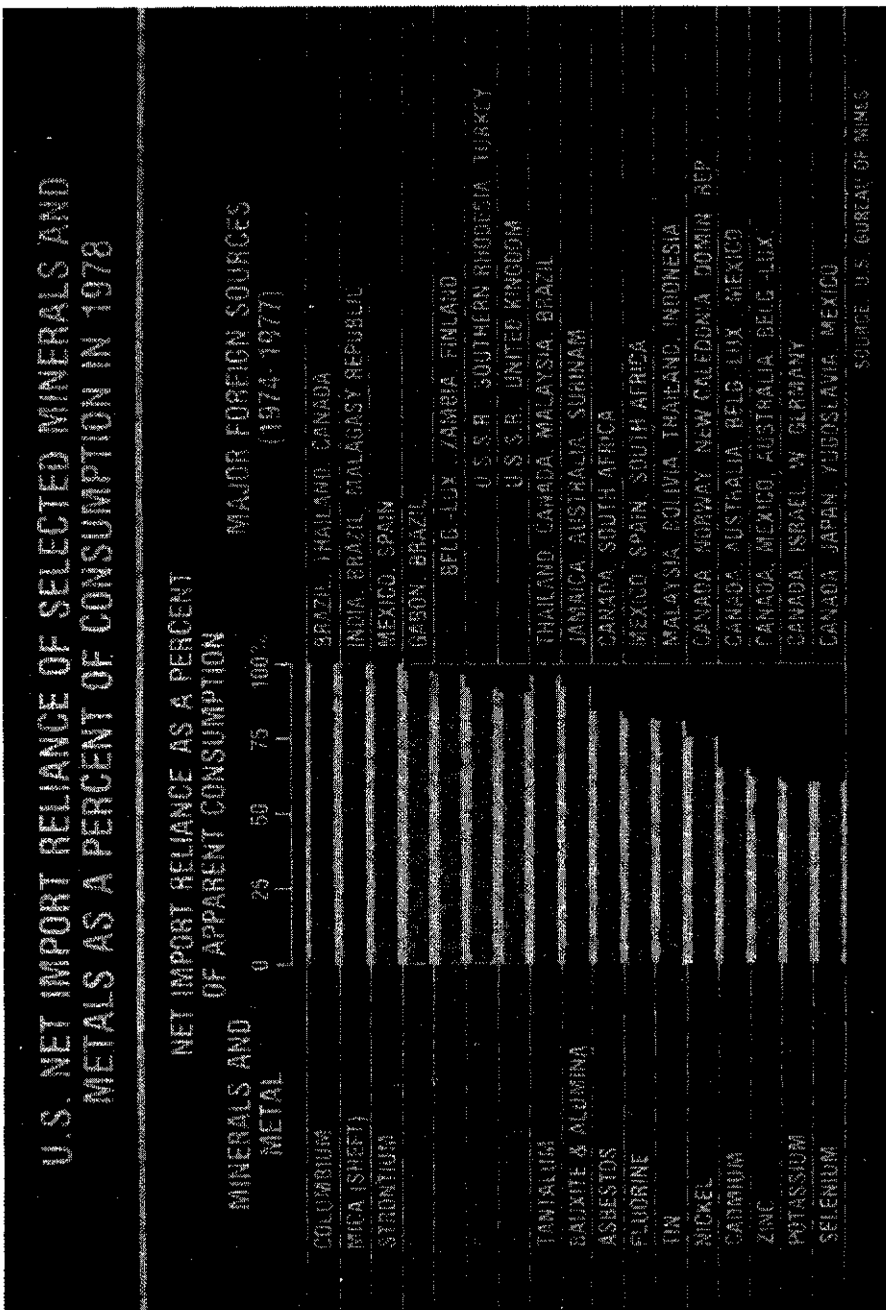

U.S. NET IMPORT RELIANCE OF SELECTED MINERALS AND METALS AS A PERCENT OF CONSUMPTION IN 1978
MINERALS AND METAL
NET IMPORT RELIANCE AS A PERCENT OF APPARENT CONSUMPTION
0
25
50
75
100%
MAJOR FOREIGN SOURCES (1974-1977)
COLUMBIUM
BRAZIL, THAILAND, CANADA
MICA (SHEET)
INDIA, BRAZIL, MALAGASY REPUBLIC
STRONTIUM
MEXICO, SPAIN
GABON, BRAZIL,
BELG-LUX, ZAMBIA, FINLAND
U.S.S.R., SOUTHERN RHODESIA, TURKEY
U.S.S.R., UNITED KINGDOM
TANTALUM
THAILAND, CANADA, MALAYSIA, BRAZIL
BAUXITE & ALUMINA
JAMAICA, AUSTRALIA, SURINAM
ASBESTOS
CANADA, SOUTH AFRICA
FLUORINE
MEXICO, SPAIN, SOUTH AFRICA
TIN
MALAYSIA, BOLIVIA, THAILAND, INDONESIA
NICKEL
CANADA, NORWAY, NEW CALEDONIA, DOMIN. REP.
CADMIUM
CANADA, AUSTRALIA, BELG-LUX, MEXICO
ZINC
CANADA, MEXICO, AUSTRALIA, BELG-LUX
POTASSIUM
CANADA, ISRAEL, W. GERMANY
SELENIUM
CANADA, JAPAN, YUGOSLAVIA, MEXICO
SOURCE: U.S. BUREAU OF MINES

FIGURE 7

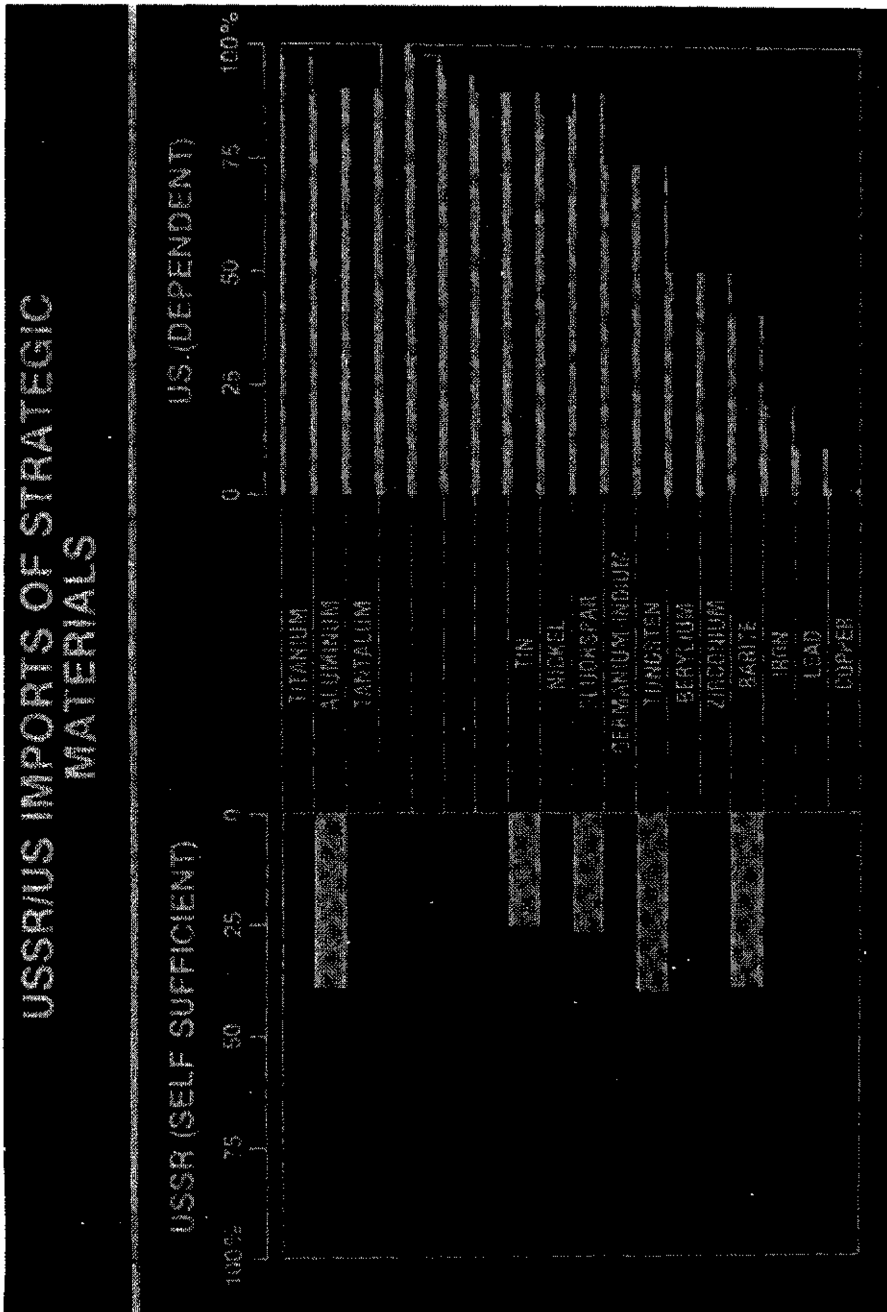

USSR/US IMPORTS OF STRATEGIC MATERIALS
USSR (SELF SUFFICIENT)
US (DEPENDENT)
100%
75
50
25
0
25
50
75
100%
TITANIUM
ALUMINUM
TANTALUM
TIN
NICKEL
FLUORSPAR
GERMANIUM-INDIUM
TUNGSTEN
BERYLLIUM
ZIRCONIUM
BARITE
IRON
LEAD
COPPER

FIGURE 8

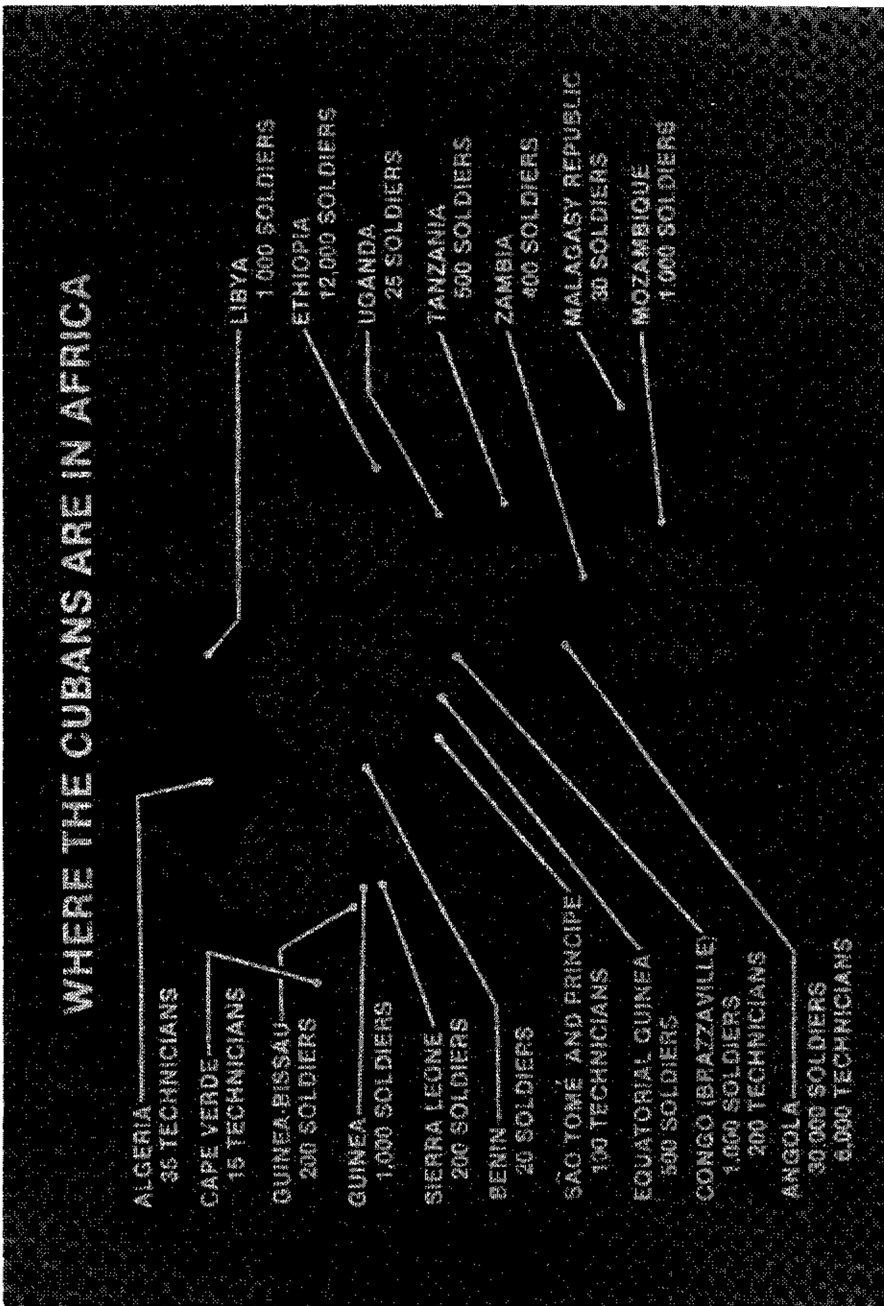
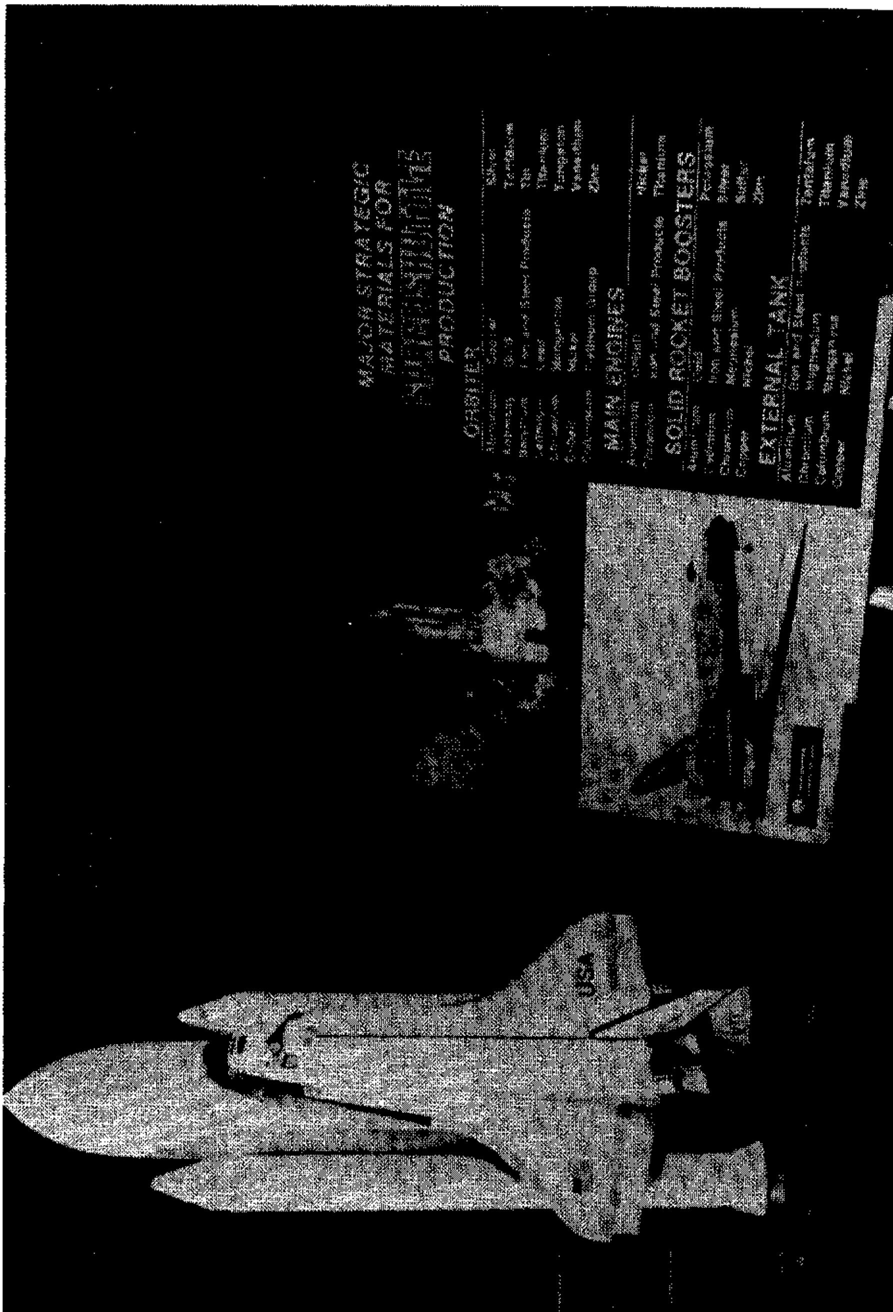

WHERE THE CUBANS ARE IN AFRICA
ALGERIA
35 TECHNICIANS
CAPE VERDE
15 TECHNICIANS
GUINEA BISSAU
200 SOLDIERS
GUINEA
1,000 SOLDIERS
SIERRA LEONE
200 SOLDIERS
BENIN
20 SOLDIERS
SAO TOMÉ AND PRINCIPE
100 TECHNICIANS
EQUATORIAL GUINEA
100 SOLDIERS
CONGO (BRAZZAVILLE)
1,000 SOLDIERS
200 TECHNICIANS
ANGOLA
30,000 SOLDIERS
6,000 TECHNICIANS
LIBYA
1,000 SOLDIERS
ETHIOPIA
12,000 SOLDIERS
UGANDA
25 SOLDIERS
TANZANIA
500 SOLDIERS
ZAMBIA
400 SOLDIERS
MALAGASY REPUBLIC
30 SOLDIERS
MOZAMBIQUE
1,000 SOLDIERS

FIGURE 9


MAJOR STRATEGIC
MATERIALS FOR
PRODUCTION
ORBITER
MAIN ENGINES
SOLID ROCKET BOOSTERS
EXTERNAL TANK

Mr. WOLPE. Thank you very much, Admiral Mott.

I would now like to call on Mr. William Severin, a consultant and former industrial economist and analyst for the CIA.

STATEMENT OF WILLIAM K. SEVERIN, CONSULTANT, AND FORMER INDUSTRIAL ECONOMIST AND ANALYST, U.S.S.R.-EASTERN EUROPE, CENTRAL INTELLIGENCE AGENCY

Mr. SEVERIN. It is just as well that I am a former employee of the CIA because the views I have are not quite along the lines painted by Admiral Mott on Mr. Casey's recent statements.

But to get straight to the questions that were put to me, my response to the first question is that the Soviets do not need to wage a resource war in southern Africa to satisfy their own needs.

First of all, they have plenty of manganese, enough to last more than two centuries at current rates of exploitation. A large share of their reserves is relatively low in quality, but the Soviets have coped with this problem for many years. They are the world's largest producer of manganese ore and a major exporter. New mining capacity has been added recently and more is under construction. Production is centered in the European U.S.S.R. where nearly all of the reserves are located, mainly in the Ukraine, but also in Georgia.

In the case of chromite, the Soviet Union and South Africa are coleaders in world production. Soviet production has faltered in recent years, however, as the more accessible surface mines were depleted and difficulties were encountered in developing new mines and in converting old surface mines to underground operations.

Soviet exports of chromite also have dropped off, reflecting both a production slowdown and technological change in stainless steel making. The introduction of the AOD process has resulted in an increased market preference for low-quality chromites, such as those found in South Africa, at the expense of the high-quality ores found in the Soviet Union.

New mining capacity introduced late last year should bolster supplies in the near term, and there are no indications that exports are to be discontinued. Over the longer term, reserves should be ample for about 70 years at current rates of production. Nearly all of the reserves are located in a fairly compact area in North Kazakhstan.

Platinum-group metals are among the top card in the Soviet's minerals hand. The Soviets lead the world in production and from 1970 through 1980 they earned $2.8 billion in hard currency by exporting 22.8 million troy ounces of these metals, or about two-thirds of their total output.

A massive expansion project launched near Noril'sk in northern Siberia in the 1960's is reaching paydirt. Large new mines have been developed and a large metallurgical plant was put into operation early this year, with further expansion plans through 1985. The reserves in the area have been enlarged by recent geological investigations.

In the case of cobalt, the current output of the Soviet Union is only about two-fifths that of Zaire, the world leader. But it is extremely well off compared with other major industrial countries that are nearly completely dependent on imports.

The Soviets obtained as much as 1,000 tons of cobalt per year from Cuba as partial repayment for economic assistance, and lesser amounts from the West. The outlook is favorable for an improvement in the Soviet cobalt position. The Noril'sk project just mentioned is a source of both cobalt and platinum-group metals as byproducts, as well as copper and nickel as principal products.

This project will be counted on heavily to obtain the planned increase in cobalt production of at least 30 percent by 1985. An increase of this magnitude should enable the Soviets to meet growing internal needs and end the marginal dependence on imports from the West, and possibly create some exportable surplus.

Looking briefly at nonfuel minerals in general, the Soviet Union enjoys a high degree of self-sufficiency unmatched by any other major industrial country.

Yet, it is and has been for years selectively dependent on imports for part of its needs of nonfuel minerals. In the 1970's, the Soviet Union was a net importer of tin, bauxite, aluminum, tungsten, molybdenum, and fluorspar. Lead and zinc were purchased from the West, but considering Soviet shipments to Eastern Europe it probably is still a small net exporter.

In recent years, exports and imports of rolled steel were about evenly balanced.

The Soviets were buying relatively expensive grades of steel from the West and exporting less costly types to other Communist countries and to the LDC's. Since 1974, average annual outlays of hard currency have exceeded $2 billion, or much more than for combined imports of all other nonfuel minerals.

These trading activities do not portend a global search for minerals, and certainly announced Soviet policy is to maintain a high degree of self-sufficiency. The Soviet Union recently established 15 national priority programs, one of which calls for a comprehensive exportation of mineral resources to meet national needs and to reduce vulnerability to possible disruptions in supplies from abroad.

But Soviet actions speak louder than their words. The worst projects in inhospitable northern Siberia, entailing possibly billions in ruble outlays is the most noteworthy example. But there are numerous other projects throughout the country, including Siberia, to construct new capacity and to expand existing operations.

Siberia poses problems, of course, but the Soviet commitment to it has not been weakened. The resumption early in the 1970's of work on a new Siberian rail line north of the existing one, and the intensification of geological exploration in adjacent areas, have shortened the timeframe for future exploitation.

For example, the new rail line will provide improved access to a major copper deposit near Lake Baikal. By 1985, the Soviets plan to complete work on mining designs for this project.

On our views on the question of possible Soviet actions to harm the West by manipulation of minerals in southern Africa, it is really simple. There is not too much that they can do effectively in the near term, considering the present alinement of political and, most importantly, economic forces in that region. It does not seem likely that they would try to deny strategic minerals to the West by such extreme actions as systematic bombing or military occupation. The former could have cataclysmic consequences and the latter would saddle the Soviets with more problems than advantages.

Preemptive buying is not feasible because the Soviets cannot afford heavy outlays for materials they do not need.

Cartelization is perhaps the most feasible course of action. But, as Michael Palengert of the State Department has aptly said recently:

> Nothing has really developed with the cartelization of minerals. But it is easier to raise the specter of it than to discuss what the probabilities really are. We cannot disprove what they say, but you cannot say such a thing is very probable, either.

Of course, cartels are geared to achieve commercial advantages—price gouging, if you will. But products still move to markets. It does not seem logical that the countries of southern Africa could afford to cut off sales to their best customers.

Over the longer term, the Soviets certainly will strive to have political and economic alinement with southern Africa by taking advantage of political instability, racial unrest, changing economic relationships, and the like.

One objective might be a new structure involving close political and economic ties between southern Africa, Communist countries, and other countries subject to Soviet influence. Under such circumstances, Soviet capabilities to manipulate strategic minerals would be enhanced.

But it is a hard task to make over key regions to one's own specifications. One should not discount Soviet determination and efforts to try it. But judgments on these matters I must leave to others who are better qualified.

Thank you.

[Mr. Severin's prepared statement follows:]

Prepared Statement of William K. Severin, Consultant, and Former Industrial Economist-Analyst, U.S.S.R.-Eastern Europe, Central Intelligence Agency

I am William K. Severin, a former analyst of the Central Intelligence Agency. For more than half of my 29 years and 3 months with the agency my field of specialization was Soviet and East European non-fuel minerals. My testimony is based on knowledge and understanding acquired at the Agency and on work done recently in preparing a paper for a conference conducted by the Johns Hopkins School for Advanced International Studies on "The Soviet Minerals Position through the 1990s."

The first question I have been asked to respond to is whether a primary motivation for the Soviet Union's foreign policy in Southern Africa is acquisition of control over strategic minerals to meet its internal needs. The evidence that I can muster on the subject is that such is not the case.

Of the four minerals of special interest to the subcommittee, the Soviet Union is very well off with respect to manganese ore, chromite, and platinum-group metals and, in the case of cobalt, is dependent on imports from Southern Africa for a small share of its needs.

Looking first at manganese ore, the Soviet Union, with an output of about 10 million tons in 1980, is the world's largest producer. It has maintained its exports at a steady level of some 1.2 to 1.4 million tons throughout the 1970s. Prospects are favorable for further growth in production as evidenced by recent and current construction activity. Late in 1980 a large 2 million-ton-per-year mine was commissioned in the Ukraine which already accounts for about four-fifths of national output. Other new capacity is under construction in the Ukraine as well as in the Chiatura basin in Georgia, the other important producing area. Attention also is being given to development of new sources of production. Detailed exploration is underway in Kazakhstan to enlarge its small-scale production base and exploration is underway on a promising deposit in the Soviet Far East.

Soviet reserves of manganese are adequate to permit continued exploitation at current rates for over two centuries. A large share of these reserves consists of low quality ore, but the Soviets have coped with this problem for many years.

In the case of chromite, the Soviet Union ranks along with South Africa as a world leader in production, although its production faltered late in the 1970s. After increasing gradually from 3.0 million tons in 1970 to 3.5 million tons in 1975, annual output slid back to 3.2 million tons by 1979 before recovering to 3.4 million tons in 1980.

The Soviet Union has been an exporter of chromite for many years, but in 1976-80 annual exports averaged only about 700,000 tons compared with annual levels of 1.1 to 1.2 million tons in the early part of the decade. The cuts in exports were made in shipments to the West. Amounts going to Eastern Europe held steady and even increased somewhat. The reduction in exports was probably caused in part by the slowdown in production, but technological change in stainless steel making also played a part. The introduction of the AOD process resulted in an increased market preference for low quality chromites such as those found in South Africa at the expense of the high quality ores found in the Soviet Union.

Soviet production difficulties can be attributed to depletion of the more accessible surface mines and difficulties in developing new mines and in converting old surface mines to underground operations. Late in 1980, however, the Soviet Union put into operation a new mine with a rated capacity of 800,000 tons per year. It should bolster Soviet supplies in the next few years, although sharp increases in output seem unlikely, considering both the time that may be required to reach rated capacity at the new mine and further depletion of older mines.

In the near term - through 1985 - the Soviet Union's supplies of chromite should certainly be adequate for its internal needs and there are no indications of plans to discontinue exports. It is uncertain, however, whether the Soviet Union will seek to recapture export markets in the West, particularly considering the market influence of the AOD process. At one time the Soviets indicated it was considering phasing out exports of chromite in favor of ferrochrome, but apparently no steps have been taken to achieve this objective.

Regardless of its export intentions for chromite or its more highly processed derivatives, the Soviet Union is not likely to run short of chromium for its own needs for the remainder of this century and for about half of the next. Soviet reserves of chromium are small compared with those in South Africa, but, as of 1971, they amounted to 271 million tons, according to published data. Allowing for exploitation in the past decade, the remaining reserves are adequate for about 70 years to current rates of exploitation. Virtually all of the reserves are located in a fairly compact area in northern Kazakhstan.

The Soviet Union is the leading world producer of platinum-group metals. In the 1970s it accounted for about 50 percent of world output compared with about 40 percent for South Africa. The latter has an edge over the Soviet Union, however, in that is production consists predominantly of platinum whereas Soviet production is mainly less expensive palladium by a margin of roughly three to compared with platinum. About 5 percent of Soviet production consists of rhodium and the other minor metals of the group.

Exports of platinum-group metals were of great importance to the Soviet Union, yielding hard currency earnings of about $2.8 billion in 1970-80. In terms of physical volume, exports in that period amounted to 22.8 million troy ounces or about two-thirds of estimated production. Annual exports reached peak levels of about 2.7 million troy ounces in 1972-74, a period of strong Western demand. They dropped off to only 1.4 million troy ounces in 1975, but recovered and remained at a remarkably steady level of 1.9 to 2.1 million troy ounces from 1976 through 1980.

The principal source of platinum-group metals in the Soviet Union consists of sulphide ore deposits located near Noril'sk in Northern Siberia. The deposits are exploited for their two main constituents -- copper and nickel -- and for their valuable byproducts, including cobalt, selenium, and tellurium, as well as platinum-group metals. Development efforts that began in the Noril'sk area in the 1930s yielded handsome returns for many years, but in the early 1960s another important discovery -- the nearby Talnakh deposit -- led to a further major development effort that is now nearing fruition. One of its key benefits will be to consolidate the position of the Soviet Union as a leading supplier of platinum-group metals.

The Soviet Union ranks a distant second to Zaire in world production of cobalt. Its output in 1980 of about 6,000 tons was about two-fifths of that of Zaire. It is well off, however, compared with other major industrialized nations that are virtually completely dependent on imports.

Soviet domestic supplies are augmented by the cobalt contained in nickel concentrates acquired annually from Cuba as partial repayment for Soviet economic assistance. The cobalt content may run as high as 1,000 tons per year. In addition, some cobalt has been obtained from the West in the 1970s, but probably less than the amounts obtained from Cuba. On the other hand, supplies are diminished by exports to East Europe, but hardly any information is available on the subject and the amounts involved may be very small.

Although Soviet reserves of cobalt are difficult to estimate, they are both varied and extensive. Substantial quantities of cobalt are obtained from lateritic nickel ores in the Urals that are roughly similar to those found in Cuba, New Caledonia, and other parts of the world. Even more important are sulphide ores that are exploited on the Kola Peninsula and in Northern Siberia for copper and nickel as their principal constituents, but also yield valuable byproducts, including cobalt and platinum-group metals. Additional quantities of cobalt are obtained from arsenious ores in the Tuva ASSR and as byproducts in the processing of polymetallic ores.

The most important single producer of cobalt is the Noril'sk complex in Northern Siberia. As described above, the major new mine development project launched in the 1960s is about ready to pay off. After protracted delays in construction, the associated metallurgical plant was put into operation early in 1981. The Soviet Union clearly is counting heavily on this project as the principal source of new output to reach its goal of increasing production of cobalt by at least 30 percent by 1985. An increase of this magnitude should enable the Soviets to meet growing internal needs, end marginal dependence on imports from the West, and possibly create some exportable surpluses.

Looking briefly at non-fuel minerals in general, the Soviet Union is highly self-sufficient to a degree unmatched by other major industrial powers. Yet it is, and has been for many years, selectively dependent on imports for a variety of non-fuel minerals. Trading activities in major non-fuel minerals in the past decade help provide perspective on the basic strengths of the Soviet Union as well as on the nature and extent of its selective dependence on imports.

In the areas of export strength gold, platinum-group metals, and diamonds were outstanding performers, yielding hard currency earnings of about $19 billion in 1970-79. Export capabilities for the major ferrous ores remained high, although the steady growth in exports of iron ore since World War II finally tapered off and exports of chromite declined, as described above. The Soviet Union ranked as a leading world exporter of aluminum in the 1970s, although most of its exports went to other Communist countries and developing countries. Shipments to the West yielded some significant hard currency earnings, but the Soviet Union remained a minor supplier. The Soviets also were net exporters of copper, nickel, and vanadium. The same was true of lead and zinc, although some increased buying from the West, particularly of lead, raised the possibility of a shift to a net import position. Asbestos was another important export commodity. In the past several years exports of titanium sponge were reduced sharply, although not discontinued, apparently reflecting increased internal demand, possibly including strategic uses such as in submarines. Exports of scrap increased and the cutbacks in sponege exports were partially offset by small exports of ingot metal. Early reports in 1981 indicate that the

Soviets are increasing their sales of titanium sponge.

On the import side, purchases of rolled steel warrant special mention even though steel may be regarded as more a manufactured product than a resource commodity. These purchases were extremely burdensome for the Soviet Union in the late 1970s, requiring outlays of more than $2 billion per year, or amounts far greater than those for combined imports of all othernon-fuel minerals. In terms of physical volume, Soviet exports and imports of rolled steel were roughly in balance at about 7 to 8 million tons on each side, but the Soviets were buying relatively expensive types of steel from the West and exporting less costly types to other Communist countries and to LDC's.

The Soviet Union enjoys much higher self-sufficiency in tin than other industrialized countries, but it has relied on imports for part of its needs for many years. In the 1970s such imports increased but regularly accounted for about a fourth of total needs.

Somewhat similarly, the Soviet Union is much more self-sufficient with respect to raw materials for its aluminum industry than other major world producers. Nevertheless, because domestic resources of high quality bauxite are limited, it has been obliged to increase imports of bauxite and alumina to support the steady growth of its export-oriented aluminum industry. Import dependence has increased from 15 percent of total needs in 1965 to about 40 percent at present. The principal source of bauxite is Guinea which is now shipping the Soviets about 2.5 million tons or more per year under a 30 year agreement as repayment for Soviet economic assistance in development of the mines.

In the 1970s the Soviet Union purchased tungsten, molybdenum, tantalum, and cobalt to supplement domestic supplies. Tungsten buying was sufficiently steady to spark speculation that the metal was required for special applications such as in armor-piercing munitions. Soviet buying of molybdenum was substantial late in the 1970s, possibly reflecting such special requirements as manufacture of large-diameter pipe for use in arctic conditions. Reports of Soviet purchases of tantalum have cropped up periodically in the past, but the spotty nature of the information does not suggest that a significant degree of import dependence has developed. Cobalt buying has been discussed above.

Imports of fluorspar increased gradually during the 1970s and probably account for roughly half the Soviet Union's current needs, including the substantial amounts consumed by its large steel and aluminum industries. The principal suppliers have been Mongolia, China, and Thailand.

On balance, these trading activities did not represent either a major turnaround in the Soviet trade position or the launching of a global search for minerals. Certainly the announced policy of the Soviet Union and its actions in development of mineral resources indicate that the traditional commitment to a high degree of self sufficiency has not been weakened. In the framework of the current five year plan, for example, the Soviets have established 15 national priority programs, one of which calls for comprehensive exploitation of mineral resources to meet national needs and to reduce vulnerability to disruptions in supplies from abroad.

Probably most significant as evidence of Soviet intentions are the wide ranging projects to promote further development and exploitation of non-fuel minerals. Most noteworthy is the project, already described above, that was launched in the 1960s to exploit the rich Talnakh deposit near Noril'sk in extremely inhospitable Northern Siberia. All told the project has involved possibly billions in ruble outlays. Completion of the final stages of the associated metallurgical plant is scheduled by 1985. It has the potential to bolster the Soviet copper position, strengthen a developing nickel export capability, assure a continued major role for the Soviet Union as a supplier of platinum-group metals, and eliminate dependence on imports of cobalt. Recent exploration activities have revealed the presence of additional reserves in the vicinity.

Another new source of copper for the Soviet Union, and for Eastern Europe as well, is the Erdenets deposit in Mongolia which is now being exploited after about 6 years of joint mine development effort by the Soviet Union, Czechoslovakia, and East Germany. A valuable byproduct of this operation is molybdenum which has been in short supply in both the Soviet Union and Eastern Europe. Still another project requiring a decade of arduous development is the Vostok-2 tungsten combine in Primorskiy Kray in the Soviet Far East. The ore base for the combine, which was put into operation in 1977, was subsequently enlarged by discovery of additional deposits nearby. The recent openings of new chromite and manganese ore mines have already been discussed. In the past year three new gold mines were put into operation - two underground mines in the Soviet Far East and a surface mine in Uzbekistan. Many expansion projects are underway at existing mines throughout the Soviet Union.

The resumption early in the 1970s of work on a new Siberian rail line north of the existing Transib line and the intensified geological exploration in adjacent areas help shorten the time frame for future exploitation. For example, the new rail line will provide improved access to a major copper deposit near Lake Baikal. By 1985 the Soviets plan to complete work on mining designs for this deposit. The Soviets also plan to start work on a new tin mining complex in the Tadzhik SSR in Central Asia. The list is not complete but the projects enumerated above do not suggest that the Soviets plan to follow the example set by the United States in the past few decades of shifting toward reliance on foreign supplies of minerals.

The question about possible Soviet aims to harm the West by manipulation of strategic minerals in Southern Africa is a deceptively easy one. Probably no one doubts that the Soviet Union's conception of its global interests is such that its policies and actions will often be in conflict with the interests of the West. In the context of Southern Africa and its strategic minerals there is little reason to doubt that such conflict is latent, if not fully center stage at the moment. More difficult aspects of the question however, are: 1) What courses of action are feasible and likely to be undertaken in the near term by the Soviets, considering both their present capabilities and the present alignment of political and economic forces in Southern Africa? and 2) What might they hope to do over the longer term?

The facts seem to be that the Soviets are circumscribed in terms of what they can do in the near term. A few extreme courses of action, involving direct use of military power to deny strategic minerals to the West, do not seem credible. Thus it seems highly unlikely that systematic bombing of key mines and processing and transportation facilities would be undertaken to achieve such denial. Another unlikely form of military action would be invasion and occupation of the countries of Southern Africa to control production and distribution of strategic minerals. Drawing upon their experience in Afghanistan, the Soviets might justifiably be apprehensive about their capabilities to exercise strong control in Southern Africa as they consider such relevant factors as distance, racial and cultural differences, and on-the-spot economic problems. The extractive industries are of such decisive importance in the economies in Southern Africa, for example, that it is difficult to conceive how they could be closed down. The Soviets, considering their financial status and the quantities of materials involved, would have little chance of being able to pay the Africans for not producing minerals, or for that matter to buy them for their own use. As a result, it would seem inevitable that minerals would move to Western markets to provide revenues for the Africans to buy essential food and manufactured goods from the West that are not generally available from the Soviet Union. Soviet efforts to block such movements could have unfortunate, even tragic, consequences.

Preemptive buying, as a means of harming the West, would be subject to this same limitation on Soviet buying power. Moreover, the Africans with established customers in the West would not likely ignore them out of deference to the Soviets. Of course, moderately increased Soviet buying could raise prices and cut out some Western customers, but a full-scale cornering of markets for strategic minerals seems unlikely, particularly considering the diversity of marketing channels. Soviet ability to operate effectively in all of them is highly questionable. The ballyhooed Soviet buying of cobalt in 1978 and of Rhodesian chromite at the time of the embargo constituted, insofar as tangible evidence is concerned, nothing more than limited forays into world markets, at best. Under the panic conditions at the time of the Shaba invasion, cobalt prices shot up along with levels of credulity about

Soviet involvement. Since then the dust has settled, prices have settled back, producers stocks have increased greatly, demand has weakened, and has not been offset by strong Soviet buying. The 1978 jump in prices and the curtailment in supplies accelerated the trend away from cobalt in magnet applications and provided incentives to design away from cobalt in other applications. One lesson for producers of metals is that price and supply instability prompt substitution and weakening of demand.

An unwarranted degree of importance has been attached to Soviet buying of Rhodesian chromite during the embargo. If any took place at all, it was probably small, particularly in comparison with the total quantities moving to world markets in circumvention of the embargo. It would be unrealistic to ascribe to the Soviets an ability to control the entire apparatus of shipping and commerce in that area.

Of course, the Soviets may seek to form cartels, but prospects are not particularly bright. An arrangement with Rhodesia-Zimbabwe, for example, if it could be worked out, would seem to be a futile gesture, considering the effect the AOD process has had in improving the market positions of South Africa and other producers of low quality chromites. Cartel arrangements with South Africa for platinum-group metals and gold as well as chromite have been mentioned periodically in the press, but political considerations alone seem to preclude them. Various forms of collusion in fixing of prices cannot be ruled out as evidenced by the uniformity of action by the Soviets and other suppliers of chromite in hiking prices at the time of the Rhodesian embargo. By and large, however, such actions are annoying rather than serious.

Over the longer term the outlook is less certain, of course. The Soviets undoubtedly believe political instability and incipient changes in the world economic order provide opportunities to work out new alignments that will put them in a better position to exercise influence and control in Southern Africa. I must leave judgements about Soviet ability to work out such new alignments to others who are better qualified. But, in closing, it seems to me that effective minerals manipulations by the Soviets require such revisions. Hopefully we will be able to understand and work with the forces of political and economic change in the world to stymy Soviet efforts to exploit them.

Mr. WOLPE. Thank you very much, Mr. Severin.
We will now hear from Prof. Robert Legvold.

STATEMENT OF ROBERT LEGVOLD, SENIOR FELLOW, COUNCIL ON FOREIGN RELATIONS, AND ADJUNCT PROFESSOR, COLUMBIA UNIVERSITY

Mr. LEGVOLD. Thank you, Mr. Chairman.

I am grateful for the invitation to appear before the subcommittee today.

In thinking about the problems that the Soviet Union creates or may create for the United States and our allies in the area of nonfuel strategic minerals. I think several distinctions are worth making: First, among the kinds of fears we have and second, the credibility of those fears, that is, how believable different fears are.

There are essentially four kinds of fears expressed:

First, the quintessential fear that which Admiral Mott has put so forcefully; namely that the Soviets are implementing a resource denial strategy. That is, step by step, country by country, the Soviets have set out to establish control over access to key strategic resources, and, thus, to strangle the economies of the United States and the Western allies.

This goal, moreover, is not seen as an isolated or random feature of Soviet foreign policy. Those who believe the Soviet Union is engaged in a resource denial strategy see it as an integral part of a larger geo-strategic offensive against the overall global, political-military security position of the United States and other Western Powers. Furthermore, the notion of a resource denial strategy is intimately bound up with the growth and use of Soviet military power over the last decade.

There is a second fear, a newer one, that in many respects is the obverse of the first. It is that the Soviets are moving toward an access strategy driven by diminishing supplies of their own strategic raw materials.

Some are now saying that the Soviets will put pressure on the global market in strategic nonfuel minerals either because their own supplies are being rapidly depleted, or because for reasons of greater economic efficiency the Soviet leadership has made a conscious decision to move away from the traditional principle of self-sufficiency, doing so either to save the Soviet patrimony, that is, the riches of Siberia, by acquiring the minerals of others or because they seek the economies of foreign trade in minerals.

There are two other fears, however, that I think figure in the discussion these days. The third fear is what I would call a fear of Soviet economic opportunism based on political mischiefmaking. Thus, according to this view, the Soviet Union may feel there are economic advantages, principally price advantages, flowing from political instability in key mineral-exporting regions like southern Africa. The rupture of supply from these areas stemming from political disorder will hike Soviet export earnings. Or as a more basic variant, the arrival of leftist client regimes in these areas will make it easier for the Soviet Union to collude to influence the world price in key minerals.

The fourth and last fear is really the reverse of the one just summarized. Rather than economic opportunism—which is based on political mischiefmaking—it might be described as political opportunism which is based on economic mischiefmaking. In this case, some assume that the Soviet Union is eager to encourage nationalization, cartelization, and excessive economic demands by the developing nations in the North-South dialog in order to weaken the overall power position of the West. The Soviets believe that the global position of the United States and the West Europeans depends very much on the structure of the existing global economy, one key element of which is the way commodity markets are currently structured.

Let me turn to the question of the credibility of these four fears. I have listed the four in the reverse order of their credibility. The first proposition—that the Soviets are engaged in a conscious, explicit, high priority resource denial strategy—seems to me the least plausible of the four. And the last fear—that the Soviets may in fact have an interest in egging the Third World countries on in the economic demands they make in order to diminish the global political power of the West—the most credible. The fear that the Soviet Union is energetically engaged in a resource denial strategy should be treated skeptically because it is almost exclusively an a priori argument. In most instances it flows from our predicament, rather than from a careful study of Soviet intentions, the way the Soviets go about conceiving the world, or the way they seek to change the world. Those who believe the Soviet Union is engaged in a resource denial strategy start by looking at Western resource dependency, that is, the number of critical minerals for which we are 90 percent dependent on the outside world, most of which are concentrated in southern Africa. The next step is to note how important these metals are to American and West European industry. Without them you cannot build a jet engine or an automobile, run a train, construct an oil refinery, maintain a sanitary hospital, or do a whole series of things. In this spirit, it is typical that someone like Helmut Schmidt will be quoted as saying that a cutoff of 30 percent of the Federal Republic's chrome supplies will reduce the growth of his country's gross national product by 25 percent and throw 2½ million Germans out of work.

The third step in the a priori argument is to compare Soviet and American dependency on foreign supplies of strategic nonfuel minerals, the result of which shows that the Soviets at the most import no more than between 2 and 30 percent, with the exception of cobalt, whereas the West, including the United States, has dependency rates in the neighborhood of 90 percent. Then one notices that most of these minerals are concentrated in southern Africa, "the Persian Gulf of metals"—and when this is combined with the Soviet Union's recent "mucking about" in Angola, Zimbabwe, and Namibia, bingo, people see a Soviet resource denial strategy menacing the sealanes around southern Africa and the region's critical mineral sources.

By and large, however, there is little evidence that the Soviets think in such terms, or have developed a coherent, explicit, high-priority resource denial strategy.

Nothing that Admiral Mott said a moment ago persuades me that there is contrary evidence. That the Soviets are conscious of Western vulnerabilities in strategic raw materials there can be no question. That consciousness is evident in open Soviet publications. So too is it obvious that the Soviets have a mounting interest in buying minerals abroad. Nor can there be any question that the Soviets regard the U.S. global position as dependent on American economic ties with a wide range of commodity-exporting Third World nations.

But the sum of these points is far from proof that the Soviet leadership systematically seeks control over the flow of resources to Western economies and intends, if necessary by military means, to be in a position to "turn off the tap." I will look very closely at Ambassador Kohler's study to see what evidence he finds in Soviet sources of a conscious and systematic denial strategy. I doubt Soviet sources, public or private, will hear out the case.

Not only can the case for a Soviet resource denial strategy not be sustained from Soviet publications, the actual pattern of Soviet behavior, in my view, does not make the point. On this score the principal test case is Soviet interventionism in southern Africa. None of what I am about to say minimizes the dangerous and troublesome implications of Soviet military intervention in southern Africa. For predictable reasons recent Soviet interventionism tracing back to the 1975-76 Angolan civil war has contributed decisively to the deterioration in United States-Soviet relations. But this said, the actual character of Soviet intervention does not support the thesis that a resource denial strategy is being implemented.

The Soviet interventions in Africa have been too discontinuous, too chaotic, too unsystematic to suggest an ambition as purposeful as resource denial. They have intervened (in Africa) timidly, carefully surveying their next step before taking it—apparently ready to retreat if challenged. Before intervening in Angola and the Horn, they apparently supported mediated settlements. Neither aspect of their action implies a determined preconceived strategy.

I will not comment on the credibility of the other three fears in detail, but concerning the second fear, the notion that the Soviets wish to secure privileged access to foreign resources to meet their own domestic requirements—or those of Eastern Europe—it is enough to say that any such interest would scarcely justify risky political and military actions likely to bring a confrontation with alarmed NATO powers.

In the case of the third fear, while I consider it more plausible that the Soviet leaders appreciate the windfall economic benefits that disorder in mineral-exporting regions may bring their way, again, they are not foolhardy enough to make such gains a high priority of policy—in particular not by means of a high-risk, heavy-handed, politico-military strategy. The gains would be incommensurately smaller than the hazards.

The fourth fear makes the most sense to me. I think it likely that the Soviet Union in a vague and diffuse way is interested in encouraging southern Africa and other countries to form cartels controlling price and in certain circumstances jeopardizing economic performance within the West. It is certainly true that the Soviets have long urged nationalization of foreign enterprises. They have also backed a wide array of the Third World's economic demands made of the industrialized capitalist powers. Doubtless this has been done in part because Soviet leaders instinctively view economic challenges of this sort as a way of diminishing the West politically.

Yet, at the same time, Soviet actions and specific positions on concrete issues in the so-called North-South dialog have been far less clear cut.

As a practical matter, the Soviets have been unwilling to pick up their share of the burden for aiding development within the developing countries, including those which they define as their friends.

In the dialog over a New International Economic Order, Soviet support for the South is conspicuously rhetorical and largely at the level of "doing in the imperialists," or "exacting a pound of flesh for the earlier colonial exploitation of the Third World." When it comes to the hard issues, however, such as commodity market stabilization, concessionary financing, technology transfer, debt rescheduling, governance within a new international economic order, and so on, then the Soviets are more often with the North, and the South notices.

Thus, even the fourth fear deserves to be qualified because of the equivocation in actual Soviet diplomacy.

Beyond these four fears there are other concerns, however, worth keeping in mind. First, I think it is fair to say that in wartime the Soviets may well intend to practice a resource denial strategy. Were I a U.S. military planner I would assume that the Soviets have contingency plans for interrupting the secure supply of nonfuel strategic minerals in a war. Though even in war I suspect that the priorities for the Soviet Navy are likely to be in the North Atlantic. Threatening the sealanes coming out of the Indian Ocean and around southern Africa is likely to be a lesser and delayed priority. One should note that: Admiral Gorshkov, the man who directs the Soviet Navy in his writings, underscores the importance of the seas as a supply route for highly resource-dependent Western nations.

Second, the Soviets in some general unorchestrated fashion may try to exploit disruptions in mineral markets to their economic or political advantage. I have little doubt that the Soviets are delighted to see their import earnings fattened by disruptions affecting other mineral supplies.

But this is essentially a passive, unfocused stance, not the makings of an elaborate, assertive strategy. Even on the more specific question of whether the Soviets are likely to use their own mineral exports to pressure Western customers the evidence is not conclusive. The Soviet Union did cut off chromite exports to the United States in the spring of 1950 before the Korean war. More recently they have reduced tungsten sponge exports to West European buyers. But it is not clear that either was done to put political pressure on the other side. At least their purpose was not made explicit, a strange way to apply economic sanctions if that is what they were doing. When we cut off grain deliveries to the Soviet Union after the Afghan invasion we let them know why we were doing it.

Finally, in the broad East-West competition, we must assume that the Soviet Union will not play a particularly constructive role in North-South discussions of international economic issues. At a rhetorical level they will try to accentuate divisions between developing countries and developed market economics, when it comes to practical steps for doing something about international economic reform, they are likely to be missing.

If I may finish with some general guidelines following from this analysis: First, "several don'ts:"

First, don't let a balanced U.S. policy in southern Africa on the broad range of southern African issues be tilted by a single exaggerated concern over Soviet designs on the mineral resources of the region. Don't let a sound African policy be undermined by the false need to defend ourselves against a resource war with the Soviet Union.

Second, don't let false concern over the Soviet threat to nonfuel strategic minerals distort domestic policy choices. There may be general changes that we wish to make in our environmental laws, but not because we are engaged in a dramatic struggle with the Soviet Union over secure foreign mineral supplies.

Third, don't let a preoccupation with a nonexistent Soviet resource-denial strategy blind us to the possibility of dealing more constructively and realistically with the threats the Soviet Union does pose. In this case, in particular, we should not overlook the prospect of some kind of crisis management with the Soviet Union in areas like southern Africa. In short, don't let the notion of a resource war with the Soviet Union close our eyes to the importance of continued dialog with the Soviet Union addressed to doing something about superpower interference where there is the risk of regional instability.

On the other hand I would propose one major "do": This has to do with the distinction between vulnerability and dependency. It is an important distinction in my judgment.

We as a nation can afford a considerable degree of dependency—as we have in both oil and nonfuel strategic minerals—if we address the vulnerability problem. In the case of fuel that means we must install backup systems in industry by which one fuel source can be swiftly converted to another. It involves international stockpiling—national stockpiling is not adequate within these circumstances. In the area of nonfuel strategic minerals the first step is stockpiling.

Then there are a series of additional steps to be taken reducing the risks of vulnerability in the face of resource dependency.

In sum, we ought to be cautious in the way we define the place of strategic nonfuel minerals in our foreign policy agenda, being careful not to let false concerns distort U.S. policy toward southern Africa itself; second, toward the Soviet Union generally; and finally, on a range of important domestic issues.

[Mr. Legvold's prepared statement follows:]

PREPARED STATEMENT OF ROBERT LEGVOLD, SENIOR FELLOW, COUNCIL ON FOREIGN RELATIONS, AND ADJUNCT PROFESSOR, COLUMBIA UNIVERSITY

THE STRATEGIC IMPLICATIONS OF THE SOVIET UNION'S NONFUEL MINERAL RESOURCES POLICY

In thinking about the problem the Soviet Union creates for our friends and us in the area of nonfuel minerals, two distinctions are worth making: First among the fears we harbor; second in the credibility our various fears deserve. Different people, it turns out, worry about different things, and the contrasts merit careful consideration. The analysis, however, would be incomplete if left at that, and so the last part of the paper goes on to ask which among these fears is justified and which, in contrast, should be doubted or even dismissed.

FEAR OF A SOVIET RESOURCE-DENIAL STRATEGY

Our fears divide into four basic categories: First, that the Soviet Union is engaged in a long-term systematic strategy to deny the West assured access to critical mineral resources; second, that the Soviet Union seeks privileged access to world supplies of vital minerals for itself; third, that the Soviet Union is ready to make political mischief in mineral-exporting regions for reasons of economic opportunism; and fourth, that the Soviet Union is ready to make economic mischief in league with minerals exporters for reasons of political opportunism.

Of these concerns, the first receives the most attention. The notion that the Soviet Union is methodically stalking the foreign sources and supply lines of strategic minerals vital to the industrialized economies of the West persuades a growing number of people. For many who believe the Soviet Union seeks control over the flow of Persian Gulf oil to the West, the thought that it also means to threaten -- or to be able to threaten -- vital non-fuel mineral supplies follows naturally. In both cases, the Soviets are assumed to have a highly strategic approach to oil resources concentrated in the Persian Gulf area and to strategic minerals concentrated in southern Africa; that is, in both cases they are thought to see Western dependency as an irresistibly potent source of Soviet leverage if only control can be gathered into Soviet hands. In both cases, they are assumed to relish chaos and violence within these critical regions, viewing turmoil as the best setting for the growth of their own influence. In both cases they are assumed to stress military power as the primary instrument of their ambition -- a fairly blunt instrument on which they supposedly count to promote local clients, to subvert the West's strategic position in key countries, and to imperil secure sea-lanes of communication (SLOC) essential to the steady flow of critical resources.

The conviction that the Soviet Union attaches high priority to menacing Western mineral supplies is not a random or free-floating fear. On the contrary, most of the convinced share a broader and more basic conviction that Soviet designs on the mines, oilfields, and markets of the Gulf and southern Africa form an integral part of a grand geostrategic offensive against the global position of the industrialized West. A resource denial strategy, accordingly, represents but a component, a mini-version, of the Soviet Union's larger purpose. The relentless amassing of military power, the mounting instances of Soviet intervention in remote crises, the invasion of Afghanistan, the partnerships struck with the Cubans and a burgeoning group of radical client states, they would argue, are not so many happenstances, but related pieces in a systematic Soviet effort to destroy the keystones of Western security and well-being, thus altering the underlying balance of power between East and West, leaving the Soviet Union with the upper hand in all of the world's critical strategic theaters, beginning with those nearest the Soviet Union. At root, therefore, the systematic character of Soviet efforts to dominate Western mineral supplies matters less than the broader, more far-reaching strategy which these efforts supposedly serve.

There is a second characteristic of this first apprehension: It is largely a priori in nature. It stems almost wholly from the starkness of the Western predicament, not from evidence of Soviet intentions. Thus, the chain of reasoning begins with a statement of U.S. and West European resource dependency. The United States imports 91 percent of the chromium used by industry (West Europe 100 percent); 91 percent of the bauxite (West Europe 97 percent); 97 percent of the cobalt (West Europe 100 percent); 98 percent of the manganese (West Europe 100 percent), and so on.

This is followed by some indication of the critical role these metals play in Western economies. Without them, we could not "build a jet engine or an automobile, run a train, construct an oil refinery or a power plant." We could not "process food or maintain a sanitary restaurant or a hospital operating room." We could not "build a computer, clean up the air and water," and so the list goes.[1] Or maybe a national leader like Helmut Schmidt is quoted to the effect that were the West German economy cut off from its supplies of chrome for a year, the GNP would drop by 25 percent and 2.5 million would be thrown out of work.

Note is taken of the Soviet Union's and East Europe's lesser vulnerability. In those critical minerals where Western import dependency exceeds 85 percent, the Soviet Union and its allies buy between 2 and 30 percent from the outside world (with the exception of cobalt, which is close to 70 percent). By implication, therefore, the Soviet Union with fewer second thoughts can pursue a rough-and-tumble strategy putting the other side's mineral supplies at risk.

In the chain of argument -- an argument whose "facts speak for themselves" -- no fact figures more prominently than the criticality of southern Africa. In one breath the West's intimidating resource dependency is laid out; in the next, southern Africa is introduced as the decisive choke point of that dependency. Of the 97 percent of the United States' cobalt that comes from abroad, 76 percent is mined and shipped from southern Africa; 48 percent of the chromium; and 44 percent of the manganese. When it comes to something like the platinum group metals, the percentage soars to 93 percent. Or as a variation on the same theme, when Soviet reserves are added to the mineral reserves of southern Africa, the vision of a Soviet monopoly over the known stocks of chromium, titanium, vanadium, manganese, etc. begins to take on frightening and nearly lifelike proportions. Southern Africa is, in the phrase of the day, "the Persian Gulf of metals" -- a comparison that comes automatically when the numbers are featured.

The final leap is almost effortless: To the West's need and southern Africa's importance, one adds Soviet intervention in Angola and other African troublespots, and the whole picture seems dramatically clear. It is taken for granted that the Soviet Union is not merely responding to random opportunity; that the rallying to various movements or factions in the confusion of Portuguese decolonization and the war in Rhodesia reflects a conscious effort to entrench the Soviet Union politically and militarily within the region; and that open, large-scale armed intervention demonstrates how boldly the Soviet leadership intends to move ahead. The link between the intrinsic importance of the region and a compelling Soviet determination to deny its riches to the West -- or to dictate the terms of trade -- turns out to be the role the Soviet Union has played in Africa's recent moments of violent change.

The apparition -- or for many, the conviction -- of the Soviets pursuing a resource-denial strategy in strategic metals, along with the parallel fear for oil, represents an important evolution in our perception of the Soviet threat. No longer is outarming the West assumed to be the Soviet leadership's only ultimate source of leverage; the resource vise now emerges as a second frightening alternative -- one, of course, closely bound up with the growth of Soviet military power. As a result, how much sharper and more concrete the threat now seems than a decade ago, when the worry was over a rather shapeless Soviet effort to influence the hearts and minds of the so-called emerging nations and the menace of Soviet military power fell largely but imprecisely on Western Europe.

FEAR OF THE SOVIET UNION AS A COMPETITOR FOR STRATEGIC MINERALS

The second kind of fear is a newer one and the obverse of the first. Some are afraid the Soviet Union, whatever its other aims, intends to satisfy a larger share of its mineral needs from foreign sources -- sources currently serving the West. From a notable exporter of non-fuel minerals, according to the suspicions of some, the Soviet Union may well be becoming a significant importer. Since 1977 the Soviet Union has altered its buying and selling practices strikingly: cutting exports in some cases (e.g., chromium, platinum group metals, and lead), halting those to the West in others (e.g., manganese), and in still other cases ceasing exports entirely (e.g., titanium sponge). It, along with its allies, has purchased sizable quantities of manganese from Gabon, though traditionally the Soviet Union has been one of the world's leading exporters of manganese, and its manganese industry remains the largest in the world. It has begun buying cobalt from Zaire and Zambia, long-standing suppliers of the West, to go along with its considerable imports of Cuban cobalt-nickel concentrates.

Signs are, say experts like Daniel Fine, that the Soviet Union is shedding (or losing) its position as a self-sufficient mineral consumer, reliable supplier to East Europe, and alternative source for the West. Two different explanations are offered. According to some, the Soviet Union is rapidly running out of accessible economic stores of key non-fuel minerals, much as it is said to be exhausting exportable oil surpluses. This is Fine's view. He speaks of a "negative minerals balance" as already upon the Soviet Union. And he warns that such a "negative resources balance (both energy and non-energy)" is the "prerequisite [sic] for Soviet outward access strategy supported by the expanded power projected capability of the Soviet Union's armed forces."[2]

Or, according to a second hypothesis, the Soviet leadership by choice is turning its back on the principle of self-sufficiency in order to secure the economic advantages of foreign trade. Either to conserve the Soviet patrimony or to seek the comparative savings in buying abroad, the Soviet leadership has thus decided to let others supply minerals to the Soviet economy -- to participate more fully in what the Soviets call the "international division of labor." As the costs of developing mineral sources in the rich but unyielding Siberian region swell and the grade of key ores now being mined declines, so the argument goes, the Soviet leaders have a natural incentive to reconsider their traditional stake in self-sufficiency and to look to foreign exporters for a larger part of their country's non-fuel mineral needs.[3]

Either way, the implications are thought to be ominous. Whether the Soviet leadership is forced to turn outward by economic necessity or inspired to by economic rationality, the Soviet Union remains for many an odd and disturbing competitor. Without a convertible currency and with a dwindling ability to earn hard currency -- or so it is commonly assumed -- the Soviet Union is not likely to do well in the market place by ordinary means. Precisely what it may substitute rarely gets spelled out, but the possibilities appear to range from the quasi-commercial (e.g., pushing arms sales) to rude politics (e.g., military intimidation), to outright colonization (e.g., Afghanistan or, in some relevant respects, Cuba). Daniel Fine, to pick an example, talks about the Soviet Union as a country that lacks "conventional internationally recognized buyer capability," and then goes on with a cautioning as vague as it is foreboding: "Without that capability, or something equivalent, it is not clear that the transition of the Soviet Union from resources 'seller' to 'buyer' will be accomplished in a relatively non-conflictual manner."[4]

FEAR OF THE SOVIET UNION AS AN ECONOMIC OPPORTUNIST

The third fear is of economic opportunism leading to political mischief-making. Simon Strauss, for example, argues that "while political and military factors are often cited to account for Soviet and Cuban involvement in Africa, the Soviet Union surely has not lost sight of possible commercial advantages. Civil disorder in South Africa and Rhodesia on a scale that would interfere with production of these minerals would enormously expand the value of Soviet exports."[5] His worry that Soviet leaders may be tempted to see economic profit in political conflict has several forms. Strauss expresses one: that the Soviet Union would value the price advantage to it in a disruption of production in southern Africa caused by large-scale civil disorder. South Africa in flames doubtless would bring the Soviet Union a higher income for a whole series of non-fuel minerals. Trouble in Zambia or Zaire paralyzing the mines well might add to the export earnings of Soviet copper. Conflict in Zimbabwe or Namibia would perhaps enhance the Soviet Union's market position in antimony, tantalite, beryllium, and a number of other rare metals.

Something of the same effect, only more permanent, might be achieved by colluding with leftist client regimes -- were they in place -- to control prices. The objective would be an OPEC in strategic minerals, only this time with direct Soviet participation. The trick is to bring likely clients to power, a process that again holds the most promise, according to Western analysts who share this apprehension, where there is turmoil. By implication the Soviet Union is already well on its way, thanks to the changes in Angola and Zimbabwe, changes growing out of political violence and aided in no small part by Soviet armed meddling. Namibia, they would argue, is next, and then the grand prize, South Africa itself.

Short of fancying the various favorable effects political disarray in southern Africa may have on their export earnings, the Soviets, say some, have found other ways to exploit trouble to their economic advantage. The most often cited case is the Soviet purchase of 300 metric tons of Zairian cobalt on the eve of the second invasion of Shaba province in spring 1978. Since the invaders were allegedly trained by the Cubans and perhaps by the Soviets and East Germans, the Soviet purchase looks to some suspiciously like an attempt to do a little stockpiling with the benefit of inside knowledge. Other supporting illustrations may not be plentiful, but the image of Soviet eagerness to play the economic angles of local crises remains undimmed.

FEAR OF THE SOVIET UNION AS A POLITICAL OPPORTUNIST

Finally, there is the reverse concern of Soviet political opportunism pursued by economic mischief-making. By economic mischief-making I mean the Soviet Union egging Third World nations on to aggressive economic policies: encouraging nationalization of foreign industry and trade, exhorting and abetting cartelization in key commodities, including non-fuel minerals, and urging exaggerated demands in North-South negotiations. The political opportunism comes from doing these things in hope of diminishing the economic underpinning of the West's global power.

The Soviets openly condemn the West's economic ties with the developing nations and the institutions sustaining them as a critical component of the West's global position. They have long argued for a restructuring of the international economic order precisely because it would strike at U.S., West European, and Japanese power in the outside world. They, some belive, are or will soon be fostering intemperate and prejudicial economic policies on the part of mineral exporters for much the same reason. If the Zimbabwes, Angolas, and Zaires of the world can be gotten to treat Western economic interests roughly, so the Soviet leaders are thought to think, the infrastructure of Western power will begin to crack. Viewed in this light, the political strains created by OPEC are its first and most direct benefit. And its most profound, indirect benefit turns out to be the damage done to Western security by the economic uncertainties surrounding the supply of oil. Those who believe the Soviet Union has a political stake in seeing the United States and its friends under the economic gun find it easy to believe that the Soviet leadership would like to see the challenges to Western economic preferences multiplied, and strategic non-fuel minerals represent an additional area of opportunity.

EVALUATING OUR FEARS

The first two fears are two sides of what has come to be known as the "resource war" between the West and the Soviet Union. Either because the S oviet Union wants to deny minerals to the West or because increasingly it needs them for itself, or for both reasons, the Soviet leadership is said to have made control over mineral supplies a conscious target of policy. Counteracting Soviet-aided revolution in mineral-rich parts of the world, therefore, is important not only to discourage random predatory moves and to quiet sources of tension, but as a response to a carefully calculated strategy. In particular, preserving congenial regimes in southern Africa, and above all in South Africa, is not merely a matter of casual confort, but of checkmating this strategy at its core. As one of the convinced writes: "All recent developments in Africa have been interpreted by Moscow as preliminary rounds to an onslaught on the final target, the Republic of South Africa."[6] South Africa, "the key to success on the entire continent," the Soviets are said to stress, thus becomes "an increasingly important part of the outcome of the East-West struggle."

Unlike the first two fears, the last two presuppose no particular strategy nor anything so grandiose and elaborate as a "resource war." They represent Soviet expediency -- the Soviet Union making the most of opportunity. In one instance, the Soviets are portrayed as economic opportunists garnering from political disorder what they can; in the other, as political opportunists ready to seize on economic discontents to damage an opponent. But in neither are the Soviets assumed to proceed with clearcut objectives and a developed strategy.

None of these four fears, however, is necessarily incompatible with the other three. One can believe in all four. Some may simply be more persuasive at particular times, or they may appear in different timeframes. For example, in the short run the Soviets may focus more on the scattered politico-economic effects of an Angolan or Namibian revolution, while nonetheless valuing change of this kind as a step toward the longer-term aim of dominating the region's mineral exports. Put another way, the four fears might be regarded as reflecting minimum and maximum Soviet aspirations. Seen in those terms, the four are presented in order of the Soviet Union's most to least ambitious aspirations.

Judged according to their credibility, however, the order is just the reverse -- from the least to the most plausible fear. The most dramatic and commonly mentioned of the three -- the notion that the Soviet Union is pursuing a resource denial strategy -- seems to me the least demonstrable. Whereas the last concern -- the impression that the Soviet leadership sees some vague political advantage to aggressive economic actions on the part of Third World commodity exporters -- echoes rather clearly in the Soviet leadership's own comments.

The Fear of a Soviet Resource-Denial Strategy

The first fear is unconvincing largely because of what I earlier called its a priori nature. It exists because of the hazards we see in our resource dependency, not because the Soviet leadership can be shown to believe in, let alone to pursue such a strategy. Simply no evidence exists suggesting that Soviet leaders think in terms of strangling the West by denying it strategic non-fuel minerals in peacetime, not, at least, in any way relevant to workaday policy. (What their fantasies may be is another matter, but not easily explored.)

If the Soviet leadership took the idea seriously, one should be able to find traces in what they say and write. In other instances, our grimmest impressions have some reflection in Soviet sources. For example, those who regard the Soviet military threat as greater still because Soviet military planners are thought to believe in the possibility of fighting and winning a war, even a nuclear war, can find statements from Soviet military authorities saying as much. Those who doubt the wisdom of seeking detente with the Soviet Union because its leaders appear to view detente as a more advantagous framework with which to pursue the competition with the West will have no trouble finding evidence. Soviet writers and speakers have always been candid in justifying detente as a safer, more constructive, and cheaper way to wage the struggle. Those who believe the Soviet Union means to push radical change even where it is considered threatening by the West, whatever interest the Soviet leadership professes in stabilizing East-West relations, negotiating arms control accords, and expanding economic cooperation, again have only to read the Soviets themselves. The list of illustrations could be easily lengthened.

But as for the Soviet fascination with threatening mineral supplies as a handy recourse for influencing U.S. behavior, hardly any evidence is to be found, and those who believe the Soviet leadership is consciously implementing such a strategy offer none. Little of the argument involves consulting conventional Soviet sources; when Soviet authority is marshalled, usually it is a remark about the significance of African minerals to Western economies. A Soviet author will be quoted to the effect that "the U.S. imports from Africa nearly 100 percent of her imported diamonds, lithium derivatives, beryllium, columbite, cobalt and palm oil; over 50 percent of her cocoa, vanilla, long-staple cotton and mahogany, 25 percent of her antimony, chrome, graphite, manganese and tantalum; and significant quantities of rubber, gold, uranium, and oil."[7] In fact, Soviet analysts who note U.S. and West European mineral dependency invariably are explaining why the Western powers are supposedly so aggressive and rapacious in regions like southern Africa, but this is taken as a confession of the designs the Soviets themselves have on secure Western mineral supply sources.[8] It is rather like Soviet commentators who take Western analysis of Poland's importance to the Soviet Union's East European glacis as proof of U.S. or West European determination to subvert Soviet authority there. But beyond such dubious fragments, it is hard to find much in Soviet writing that suggests Soviet policymakers think a resource-denial strategy (in strategic metals) has the remotest connection with reality.

Granted Soviet purposes are not revealed only in Soviet texts. Judging what the Soviet Union is up to also requires attention to the pattern of Soviet actions. What may not figure in Soviet writings may nonetheless by evident in the things they do. Yet here, too, in my estimation, Soviet behavior, when examined closely, does not prove what a search of the literature fails to prove. Far from the systematic, self-possessed assertion of power that a well-integrated (resource-denial) strategy implies, Soviet intervention in southern Africa has been tentative, jerry-built, marked by fits and starts, and at times distinctly confused. This does not make Soviet military interference in the region any less troubling or unacceptable if East-West relations are to be less tensionridden, but it does cast doubt on the notion that the Soviet leadership has known what it was after and singlemindedly set about its pursuit.

If Soviet actions are taken case by case, step by step, the conclusions one draws are noticeably different from those produced by a simple hindsight glance. The first, and in many respects the boldest, of the Soviet Union's African interventions -- that into Angola's civil war -- hardly fits the image of a carefully plotted, cooly executed enterprise. The opportunity arose because of the fall of the Caetano regime in Portugal, not because of anything the Soviet Union did, and at a time when Soviet observers were least expecting it -- when, moreover, Soviet relations with the MPLA, its client group, were in greatest disarray. When the warring began, the Soviet Union's first impulse was apparently to support a truce among the three contending parties and a sharing of power. The Cubans, not the Soviets, were the first to offer military assistance, and they did so before they knew the Soviets were on board. Once the Soviet military intervention accelerated following the collapse of the Alvor Accords in spring 1975, each step was timidly taken with a nervous eye on American reaction. At least until South African interference freed them from any concern, the Soviet leaders were attentive to OAU sentiment and probably ready to yield to a clear-cut African majority against their involvement. As late as December 1975, only a few weeks from the decisive moments of the civil war, the Soviets appeared uncertain of their next move were the Americans to throw themselves into the battle.

Essentially the same elements of equivocation and caution marked the Soviet-Cuban intervention in the Ethiopian-Somali war two years later. Their Angolan triumph did not make them eager to do it again. Rather than pick a side and begin airlifting in tanks and Cuban soldiers, the Soviets first tried to mediate the dispute between the two African states, struggling to protect their position with both. When this failed and the fighting escalated, the

Soviet leadership avoided early direct involvement and continued trying to mollify both sides. Once they burned their bridges with the Somalis and the course of the war turned against their remaining clients, they spent several weeks carefully considering the military commitment they were about to make and measuring the likelihood of an American countermove. Only when they were satisfied that a quick success was possible, an American military response unlikely, and as a bonus an implicit African sanction probable, did they move. And when they moved, they were careful to stay within the confines of the so-called Ogaden war; they, contrary to the predictions of many, made no attempt to use the war as a springboard to overthrow Siad Barre and reinstall themselves in Berbera, nor did they assume an unlimited license to crush the Eritrean insurgency weakening their friends in Addis.

In Rhodesia, they lined up with a single faction, a faction that was sure to fare most poorly should the outcome be decided by arms, since it had the weaker army within the Patriotic Front. The assistance the Soviet Union provided its friends was less than generous and its contribution through the so-called OAU Liberation Fund more niggardly still, a fact commented on occasionally by various Africans, including its friends within Joshua Nkomo's ZAPU Party. Rarely if ever did the Soviet Union press beyond thelimits established by the front-line states, limits designed in part to avoid large-scale Soviet-Cuban participation. And, when the Lancaster House settlement opened the way to a peaceful transition from white rule and in effect the defeat of its local favorites, the Soviet Union did little to block or overturn the agreement. Nor did the Soviet leadership show much taste for a black civil war between the two halves of the Patriotic Front after the collapse of the "internal settlement," though this may have been the only hope for those whom the Soviet Union backed.

None of this is to paint Soviet military intervention in Africa as innocent or benign. Nor is it to dismiss the ruthless way the Soviet Union well might act were it in a position to control the flow of minerals to the West. But on the latter point a critical distinction must be kept in mind: There is a world of difference between the Soviet Union being bent on creating a situation or opportunity, and what might happen should such a situation or opportunity arise. What the Soviet Union would do to create a situation may be fundamentally different from what it would do in a situation. We have every reason to mistrust Soviet behavior were the opportunity to emerge, but that is a distinctly different matter from a Soviet policy dedicated to producing the opportunity. The distinction holds important implications for our own policy response, a subject taken up at the close of this paper.

The Fear of the Soviet Union as an Economic Competitor

If our fears fall into three categories -- namely, those to be taken seriously, those to be treated agnostically, and those to be regarded skeptically or dismissed -- then in my judgment the fear that the Soviet Union, as a practical and high-priority aim, pursues a resource-denial strategy belongs in the third. The same can be said of the second fear in its starkest form. Basically three considerations make one doubt that the Soviet Union is or will soon be driven to compete with Western industry for southern African minerals, much less spurred to make a grab for these resources: First, the evidence that the Soviet Union is rapidly turning from a net exporter of strategic minerals into a net importer remains limited and highly questionable. The case has been made by essentially one expert.[9] It is based on falling export rates in some Soviet non-fuel minerals and unexpected buying forays in these and other minerals. But in fact, in none of the minerals traditionally exported by the Soviet Union is it soon likely to become a net importer.

Take the three most significant candidates -- chromite, manganese, and titanium. Soviet exports of chromite have been falling over the past decade, but, according to the Mining Annual Review, they remain at roughly 30 percent of annual production. Much of this is a lower-grade ore, and the sharp decline in the high-grade variety has apparently prompted the Soviet Union and its East European allies to shop elsewhere. But, again, spot purchases of Albanian or Iranian 48-percent Cr_2O_3 scarcely proves a trend. If the Soviets choose to make the investment, and apparently they are, their large reserves of lower-grade ore can be upgraded through beneficiation, and they will have no need to depend permanently on other suppliers.

The case of manganese seems even less compelling. True, the ore grade is declining, perhaps inducing the Soviet Union and its COMECON partners to buy 190,000 tons of Gabonese manganese in 1978 and 350,000 tons in 1979. True, Soviet geologists have not discovered major new reserves for some years, and present reserves may not last more than 30 years. But that is not an alarming prognosis, and in the meantime the Soviet Union continues to export at roughly 13 percent of production, most of it to Eastern Europe. To maintain production and export rates, the Soviets, again, may be forced to invest more, for the costs of mining and processing less accessible and lower-grade ores will rise, but it is easily within Soviet ken to avoid sizable external dependency.

Titanium is the other frequent illustration, largely because the Soviet Union, the world's largest producer of titanium, suddenly stopped exporting titanium sponge in 1979, and instead imported ores equal to 10 percent of domestic production. Indeed, the Soviet Union may not export much titanium to the West in the near future (until 1979 it supplied almost 50 percent of West European needs, a gap now filled by Japan), but its production continues to expand at high rates, high enough to satisfy, or nearly so, soaring military demand for this critical ingredient of modern submarines and aircraft.

There is a lesson in the way so many people jumped to conclusions about the Soviet Union's anticipated energy crunch and the dire acts the Soviet Union was then likely to visit on others. And it is not merely that simple extrapolations of current production and consumption trends -- at best the technique used by those predicting Soviet strategic mineral deficits -- are often knocked awry by special Soviet efforts to alter trends. It is that so many people asserted a shortage of oil in 1985 as the explanation for all the Soviet Union was already doing, or about to do, in the Persian Gulf. Whether the Soviet Union yet suffers serious energy problems by the end of the decade, we ought not to obscure for ourselves how confidently many analyzed Soviet behavior on the basis of an earlier shortage that is not to be.

But even were the Soviet Union shortly forced to import 5 to 10 percent of its lead, zinc, or titanium needs, what in that circumstance would begin to justify the risks of plundering Western sources of supply? The magnitude of the stake bears no relationship to the hazards of proceeding in any fashion threatening Western access. This is a second reason to doubt the good sense of fearing the Soviet Union as a desperate global competitor for strategic non-fuel minerals. How reckless do we imagine the Soviets would be in order to add 10 percent to their gross supply of lead? Enough to put the Western powers utterly on edge by some rash bid? If that is the argument, what episode or experience in the sixty-four years of Soviet foreign policy suggests Soviet leaders indulge in this level of adventurism?

Finally, one wonders at the facile notion that, were the Soviet Union compelled to seek minerals on international markets, it could not obtain them through normal trading arrangements. Those who take it for granted that the Soviet Union does not have the wherewithal to trade for minerals and will inevitably seek concessionary terms by strong-arm means or even outright seizure have little acquaintance with the Soviet trade picture. To start with the worst case: Were the Soviet Union soon forced to import 1 to 2 million barrels of oil a day, this, in effect, replacing sales amounting to 50 percent of Soviet hard-currency earning with an additional $8-12 billion import bill, the Soviet leadership doubtless would have to rethink its entire foreign trade program, including the quantity of minerals it could comfortably buy abroad. But even then it would have a range of alternatives -- from expanded gold sales, to enlarging its low debt burden, to domestic reform permitting expanded nonfuel exports -- for achieving many of its foreign economic objectives without resorting to openly aggressive measures.

In reality, however, there is likely to be great flexibility in the Soviet Union's overall trade choices. Rather than becoming a net oil importer any time in the next five to eight years, most experts now assume the Soviet Union will continue to export oil.[10] Some even anticipate that increased gas sales, should the Yamburg pipeline be completed, will offset any drop in oil hard-currency earnings. Moreover, to the extent that the price of oil and gas rises, the Soviets will need to export less to finance technology, grain, and mineral imports. To the extent Soviet economic growth slows over the next several years, it will need to consume less oil and fewer minerals. And to the extent that low growth in the West depresses commodity prices, including those of many nonfuel minerals, the Soviet Union will be able to obtain what minerals it wants advantageously.

If in fact the Soviet Union's hard-currency earnings do not collapse -- and at this stage it would be a foolhardy soul who insists they will -- then it should have no trouble managing its foreign trade, including mineral exports. Since 1975, the Soviet Union has been remarkably skillful in restoring order to the Soviet trade balance and current account.[11] This it has done by carefully modulating imports of manufactured goods, selling gold (and arms), and restructuring syndicated Euroloans secured in large numbers 1974-1975. Soviet policymakers, unlike some of their East European counterparts, have shown themselves to be supremely conservative in managing account deficits and remarkably deft in getting others to finance their trade. Drovided Soviet economic trends continue -- likely leading to tight, but not crisis choices -- the Soviet leaders will have adequate flexibility in conducting their trade. Moreover, assuming as I do that they will enter mineral markets to optimize economic choice rather than for lack of choice, they will judge a trading opportunity by commercial criteria and seize it by commercial means. Generally they will look to the outside world for nonfuel minerals when they are cheaper than home-produced ones by some calculation of internal investment trade-offs. Buying Gabon's manganese may indeed appeal more to Soviet planners than bothering to produce domestic manganese for all their requirements when that marginal investment ruble appears better spent in some other sector of the economy. As before, the Soviets will also doubtless turn to foreign suppliers to bail them out of plan shortfalls and short-term bottlenecks. Yet, increasingly the Soviet leadership accepts the need to rely on the global economy. Step by step it is allowing itself to be drawn into international trade, despite a Soviet price system that makes it hard for Soviet economic decisionmakers to determine comparative advantage. Self-sufficiency is no longer an automatic virtue. As the Soviet Union gradually adapts institutions and ideas from an age of autarky, its approach to the trade in minerals will hardly remain exempt.

Thus, if this analysis is correct -- if the Soviet Union is more likely to take a commercial than an imperial approach to nonfuel strategic minerals -- then we should be focusing more on the economic and less on the strategic consequences. In general, in my view, the gradual integration of the Soviet economy into the world economy is one of the factors that over time will alter for the better the role the Soviets assign themselves in international politics, but their participation does have a special side to it. In the case of minerals, the relative scarcity of hard currency impels them to conduct as much trade as possible in soft currency or by barter arrangements. This means that the more the Soviet Union looks for mineral supplies outside the socialist camp, the more it is bound to involve itself with the development of others' minerals, seeking repayment in the minerals mined. Where it buys minerals, it is likely to use as an incentive the export of oil. This will require, in turn, increasingly involved third-market arrangements to insure other soft-currency customers are able to make up the difference from elsewhere (e.g., Cuba from Mexico, Eastern Europe from Iraq, Libya, Nigeria, and so on).

As a result, it is not that mineral exporters will be invited to trade on special terms or else, but that Western importers will, again, find themselves in competition with a centrally-planned economy operating according to its own peculiar rules. The price-cutting (or dumping) that sometimes marks Soviet trade with the industrial economies will reappear in the trade for minerals. So will the pressure to match (Soviet) state-suhsidized technical assistance to mineral-exporting nations. So will the question of how far to get involved with the Soviet Union and Eastern Europe in three-way marketing arrangements, such as IGAT II, the gasline deal with the Shah's Iran permitting the Soviet Union to import Iranian gas and export Soviet gas to Western Europe. Or whether to sell technology to the Soviet Union that may eventually make it a more formidable competitor in developing the mineral resources of others. How serious policy issues of this sort will be is hard to judge, but it is not difficult to see that they are problems that will elude people who define the challenge in terms of a resource war.

The Fear of Economic Opportunism

There is little to say about this notion other than that Soviet leaders are surely pleased when disruptions of supply or the formation of a cartel like

OPEC yields them windfall profits. Indeed, they go out of their way to maximize the benefits, as they evidently did during the 1973-74 oil embargo by rushing in to sell their own rapidly appreciating oil to all buyers.[12]

Thus, the vigorous rhetorical support they give to OPEC and would give to almost any mineral cartel is far from selfless. But welcoming the effects of events differs from seeking those effects by promoting events. The Soviets are obviously not above mixing in in local crises, but to assume that they interfered in the Angolan civil war (and would in a South African revolution) primarily because they wanted to get more for their chromite and titanium makes little sense. Price advantage is a stake which in this case is simply incommensurate with the risk.

The Fear of Political Opportunism

As noted earlier, the four fears that I have attributed to various observers are presented in reverse order of credibility. Thus, of the four, the suspicion that the Soviet Union views the North-South contestation as a vague battlefront of the East-West struggle seems the most plausible. In a loose and uncertain way, the Soviets well may believe that aggressive economic policies on the part of mineral-exporting countries contribute to the long-term transformation of a Western-dominated international economic order. In principle, the Soviets persist in urging Third World nations to master their economic destiny by bringing multinational corporations to heel, by banding together to get a fair return on their commodity exports, and by forcing from the "imperialists" proper compensation for the years of colonial exploitation. Eventually, they think the cumulative effect of this revolt of the have-nots, flowing together with the growing economic influence of the socialist countries, will remake the structure of the global economy. In turn, to the degree the United States and other major capitalist nations lose power within the global economy, argue Soviet observers, their influence in general will decline.

Indeed, because they have no illusions over the odds against changing the global economic order soon, Soviet commentators place special emphasis on the leverage oil and other strategic minerals provide Third World exporters. Soviet analysts know that nothing much will change in the basic institutions and practices of the international economic order, for, as they say, most of the Third World has yet to escape the "status of an economic periphery of the indutrially developed countries." But to the extent that small steps can be taken, an important, indeed virtually the sole, mechanism, in their mind, is the power of OPEC and, by extension, of other mineral cartels.

Yet, even in this instance, Soviet hopes and ambitions are hedged with practical qualifications and inconsistencies, making the specific threat more complex and ambiguous. As in so many other dimensions of the East-West contest, simple Soviet aims must contend with other cross-cutting interests. To take three illustrations: The Soviets are quick to exhort economic nationalism for the Third World (e.g., in principle nationalization of expatriate investment, development of the state sector, including state trading, and the formation of cartels). But at the same time, they are reluctant to take up the burden of aiding countries following their advice. Since they are not prepared to provide substantial aid or markets for Third World nations, their exhortations often lack conviction. Indeed, they are content to recommend that nations in need, including those on whom they are betting, get from the West the most foreign assistance they can. When nationalization is the choice of Third World clients, more often than not, the Soviets urge caution, for fear of killing the golden goose. In Angola and Mozambique, for example, they have advised their friends to go slowly with their economic revolution, happily endorsing Angola's decision to leave Gulf Oil's Cabinda interests untouched.

In the North-South dialogue over a so-called New International Economic Order (NIEO), the Soviet Union has been rhetorically on the side of the South, defending these nations' sweeping indictment of inequities in the international economic order, joining their counterattack on multinationals, assailing the discriminatory trade practices of the industrialized West, and supporting the LDCs' right to a pound of imperialist flesh. But, when it comes to the specifics, because Soviet interests are often with the North, their substantive position comes closer to that of the North. Whether the issue be stabilizing commodity prices, transferring technology, rescheduling debt, establishing principles for foreign aid, or shaping governance of new economic institutions, the South finds the Soviet Union a fickle ally.[13]

Finally, Soviet behavior at the Law of the Sea Conference illustrates a third kind of countervailing stake. The issue of access to the resources of the deep seabeds was, on the surface of it, ready-made for the Soviet Union. To rally behind the Group 77 nations who would turn the deep seabeds into mankind's "common heritage" to be exploited by a non-capitalist international body would have been a natural step -- an easy way to make political capital with nations struggling against "imperialist oppression." Instead, they responded in a very lukewarm manner, perhaps because they imagined that the common heritage principle might someday spill over into other areas, such as fishing, where they would be loathe to yield flag-state jurisdiction. Nor originally were they interested in compromising their traditional reluctance to cede national sovereignty to international bodies, and hence developed little enthusiasm for the seabed authority urged by the Group 77. Later, when they shifted their position on this international body, supporting efforts to move away from the principle of consensus, they did so not to please the South, but apparently to constrain the freedom of the great Western-based minerals consortia. Soviet stakes are rarely so simple as they seem.

POLICY IMPLICATIONS

By discounting some of our cruder and more impassioned fears, I am not arguing that we have nothing to fear. To say that in "the strategic confrontation now developing in southern Africa, the Soviet Union clearly intends to deny the region's vast mineral wealth to the United States and its allies and to take control of the land area from which the West's vital oil route can be dominated" simply goes beyond the evidence.[14] But this leaves room for other concerns that prudent policymakers should keep in mind.

They, in my view, are basically of five kinds: First, while the Soviet leadership almost certainly does not envisage a resource-denial strategy for peacetime, what they, along with their military, would do in wartime is a completely different matter. The cautious Western leaders must assume that the Soviet navy and supporting forces would move to interdict the supply of strategic-minerals to the West in any general war. Admiral Gorshkov, in his last book on naval power, takes careful note of the importance of the sea as a vital link between the West and the sources of strategic minerals.[15]

Granted that in the decisive first stages of a war, severing the sealanes around South Africa may take second or third place for the Soviet navy to disrupting reinforcements across the North Atlantic to the Central European theater. Nevertheless, Western military planners must calculate that at some point in a direct war between the Soviet Union and NATO, the Soviets would try to cut off critical supplies to Western economies, including strategic nonfuel minerals.

Second, there is the question of the Soviet Union using its own minerals as a means of sanction against others. This has apparently not been the Soviet practice in the past, but when it stopped shipping chromite to the United States in the weeks before the Korean War, some thought the move was meant as a form of pressure. Not that the Soviets eschew the use of economic sanctions: they used sanctions against the Chinese at the time of the 1960 split, against the Yugoslavs in the late 1940s, and against other recalcitrant allies at various points. But generally they have not made minerals a means, not if applying sanctions involved letting the other side know what is being done and why, such as the United States did in imposing the grain embargo after the Soviet invasion of Afghanistan and similarly Australia in discontinuing titanium ore shipments to the Soviet Union for the same reason. Past practice, however, may be no guide to the future, and it should be expected that the Soviet Union might halt supplies of a given mineral in a given bilateral relationship if it finds a compelling reason. Moreover, the more the West resorts to economic sanctions against the Soviet Union, the more likely the Soviet Union is to answer with countersanctions at some point.

Third, policymakers should anticipate some of the economic difficulties that a more active Soviet entry into mineral markets may create. Coping with a state trading monopoly poses special problems in any number of areas. Minerals will be no different.

Fourth, though of vague importance, the Soviet Union will continue in a broad, diffuse, shapeless fashion to work for a restructuring of the international economic order. While this scarcely involves a frontal and unqualified assault, Soviet representatives are not likely to take a full and altogether constructive part in the shaping of a more equitable and stable international economic order at any time in the near future. On the contrary, they can be expected to give at least partial encouragement to almost any element, country, or group of countries trying to trim the economic influence of the Western industrialized powers.

Finally, whether the Soviet Union is or is not following a resource-denial strategy, there should be no complacency over what might happen were it in a position to control Western access to strategic nonfuel minerals. It is certainly in the West's interest to see to it that such a situation does not arise. Acting on the assumption that the Soviets are bent on acquiring such control, however, may be the least productive way to assure that it does not. To the extent that the fear justifies a cosying up to the South Africans, another round of incautious interventionism, and a misplaced faith in military answers, we may simply contribute to what we most wish to avoid.

The last hazard leads to three policy "don'ts":

(1) We should be careful not to let our African policy be tilted or distorted by a falsely exaggerated notion of the threat the Soviet Union poses in the area of strategic nonfuel minerals. Our general and specific interests coincide in this instance. Stable, productive relations with Africa's most nations require the speediest possible resolution of the Namibian question and then movement away from apartheid in South Africa itself. So does long-term political stability in South Africa, which is the only way the West can be sure the forces that come to dominate South African politics in the future will care a fig for the West's mineral needs.

(2) We should be careful not to let sound domestic environmental and conservation programs be scrapped in the name of a non-existent Soviet minerals threat. There may be good economic reasons for altering public land use legislation in this country, altering tax incentives for mining interests, and adjusting environmental protection requirements, but it would be tragic if otherwise sound programs were cast aside because of the phantom notion that we are engaged in a mortal "resource war" with the Soviet Union.

(3) And finally, we should be careful not to let the notion of a "resource

war" and an intractable Soviet adversary blind us to the possibility of engaging the Soviet Union in a constructive dialogue leading to crisis management by the superpowers in precisely those areas where instability seems the most menacing because oil or valuable nonfuel minerals are involved.

Finally, a measured sense of the threat leads to one major "do": It is essential that we keep in mind the distinction between vulnerability and dependency. They are not the same. If, for example, we take precautions to cushion against the effects of an oil cutoff, we can tolerate any level of dependency up to the limits of that cushion. Joseph Nye and others have shown how that might be done in the area of energy through stockpiling, swap arrangements, back-up systems using alternative sources of energy within the most vulnerable industries, integrated supply lines permitting a switch from one energy source to another, etc.[16] The same approach can be taken in the area of nonfuel strategic minerals. If done, there will be no need to eliminate the level of dependency that now gives a special resonance to notions of the Soviet threat to our nonfuel strategic minerals and no need for those notions of the Soviet threat that now create special terror around our current level of dependency.

FOOTNOTES

1. Robert Buckley, "Resource War Near Over Critical Materials," Financier (March 1981), p. 34.

2. Daniel I. Fine, "Mineral Resources Dependency Crisis: The Soviet Union and the United States," in James Arnold Miller, et. al., The Resource War in 3-D (Pittsburgh: World Affairs Council of Pittsburgh, 1980), p. 37.

3. In several important minerals, viz., chrome ore, iron ores, lead ore, and manganese ore, the Soviet Union appears to be depleting its high-grade deposits, at least those currently being mined. Lower grade ores require more involved and expensive processing, such as concentrating mills

4. Fine, "Mineral Resources Dependency Crisis," p. 37.

5. Simon D. Strauss, Mineral Self-Sufficiency -- The Contrast Between The Soviet Union And The United States (Washington, D.C.: American Mining Congress, 1979), p. 8.

6. Morris Rothenburg, The U.S.S.R. and Africa: New Dimensions of Soviet Global Power (Miami: Advanced International Studies Institute, 1980), p. 221.

7. E. Tarbrin, The New Scramble for Africa (Moscow: Progress Publishers, 1974), p. 149, cited in Walter F. Hahn and Alvin J. Cottrell, Soviet Shadow Over Africa (Miami: Center for Advanced International Studies, 1976), p. 13.

8. See James A. Miller, Struggle for Survival: Strategic Minerals and the West (Washington, D.C.: American African Affairs Association, Inc., 1980), pp. 19-21.

9. This expert is Daniel Fine, an associate of the Mining and Mineral Resources Research Institute, Massachusetts Institute of Technology.

10. For a recent assessment, see "Energy in Soviet Policy," A Study prepared for the Subcommittee on International Trade, Finance, and Security Economics of the Joint Economic Committee (Washington, D.C.: Government Printing Office, 1981).

11. See Paul G. Ericson and Ronald S. Miller, "Soviet Foreign Economic Behavior: A Balance of Payments Perspective," Soviet Economy in a Time of Change, A Compendium of Papers submitted to the Joint Economic Committee, Congress of the United States, Vol. 2 (Washington, D.C.: Government Printing Office, 1979), pp. 230-232.

12. See Marshall I. Goldman, "The Changing Role of Raw Material Exports and Soviet Foreign Trade," Soviet Economy in a Time of Change, Vol. 1, pp. 177-195.

13. For an excellent analysis of this side of Soviet policy, see Toby Trister Gati, "The Soviet Union and the North-South Dialogue," Orbis, Vol. 24, No. 2 (Summer 1980), pp. 241-270, and Elizabeth Kridl Valkenier, "The USSR and the Third World: New Economic Dimension," in The Soviet Union and the World Economy (New York: Council on Foreign Relations, Inc., 1979), pp. 59-80.

14. Anthony Harrigan, "The Ultimate Target," National Review, May 14, 1976, p. 496, quoted in W. C. J. van Rensburg, "Africa and Western Lifelines," Strategic Review (Spring 1978), pp. 43-45.

15. See Admiral S. Gorshkov, Morskaya Moshch' Gosudarstva (Moscow: Voennoye Izdatel'stvo Ministerstva Oborony SSSR, 1976), pp. 11-51.

16. See Joseph S. Nye, Jr., "Energy Nightmares," Foreign Policy (Fall 1980), pp. 132-154.

Mr. WOLPE. Thank you very much, Mr. Legvold.

We will now hear from Prof. Robert Price, who is associate director of the Institute of International Studies at the University of California at Berkeley.

STATEMENT OF ROBERT M. PRICE, PROFESSOR OF POLITICAL SCIENCE, INSTITUTE OF INTERNATIONAL STUDIES, UNIVERSITY OF CALIFORNIA, BERKELEY

Mr. PRICE. Thank you.

It is interesting to note that while the topic of these hearings is whether there is a "resource war" in southern Africa, the three witnesses that have preceded me have devoted a dominant portion of their testimony to the motivation of the Soviet Union. That reveals, I think, something which is quite valid about the way in which we—that is Americans—think about the world and about the Soviet Union, and about U.S. policy.

That is, that an increase in Soviet influence somehow automatically provides the ability for the Soviet Union to translate that influence into any sort of policy that it might wish to pursue.

I would like to suggest that while the questions of Soviet motivation are indeed important, there is another set of interests which are certainly as important and perhaps even more important. That is, what is the context in which the Soviet Union would have to act, whatever its motives; and what impact does that context have on the capability of the Soviet Union to translate whatever nefarious motives they may have into action. It is to that context that I would like to address my remarks, that is, to the situation in southern Africa.

Those who speak of a resource war see the post-1975 emergence of radical or Marxist states aided by the Soviet Union as placing the West's access to the region's minerals in jeopardy.

The resources war notion assumes that these radical governments, in collaboration with the Soviet Union, are likely to deny essential materials to the West in a politically motivated effort to undermine the capitalist industrial economies. The ultimate calamity in the resources war perspective would be the radical transformation of the Republic of South Africa, since it to the public is the major source of strategic resources in the southern African area.

Despite the widespread belief that radical political transformation in Africa will jeopardize the West's access to essential minerals, neither logic nor experience supports such a notion. If anything, an examination of the structure of southern African economies and of the policies of the existing Marxist states in the area reveals the reverse.

Let me look first at the economy of South Africa since it is in South Africa that the Western interest to mineral access is most vitally engaged.

One of the primary and fundamental structural aspects of the South African economic system is the production of minerals for export. The mining sector's direct and indirect contribution to gross domestic product is estimated at about 26 percent. It provides about one-third of the Government's tax resource to revenue, and it employs about one-seventh of the country's labor force. Mineral exports currently account for approximately two-thirds of the foreign reserve that is needed by South Africa to import advanced technology as well as industrial and consumer goods.

No South African government, however radical, could afford to forgo the revenue earned by mineral exports. And the only significant market for South Africa's minerals is the United States and its industrial allies. Thus any government in South Africa, whatever its ideological coloration, would be locked into selling its industrial materials to the West, just as the West is locked into buying them.

Ironically, this would be especially true for a radical African regime which would, one must assume, attempt to satisfy the social welfare demands of the population to a greater degree than the present minority Government.

The resources to pay an enlarged welfare bill for education, health facilities, housing, and the like, would have to come out of overall economic expansion—and given the nature of the South African economy such an expansion would entail as one of its crucial elements an increase in export earnings.

Thus, a radical regime in South Africa, interested in increasing its foreign reserve flow, would be motivated to expand the export of its minerals and not the reverse.

This has implications for Government policy in the area of foreign capital and technology as well. The domestic need to increase mineral export earnings and thus to maintain and even increase mining production, combined with the need to expand overall industrial production as a basis for increasing welfare and employment, would place a radical regime in South Africa in the position of seeking external capital, technology, and management resources.

Even the present economic system, controlled by the dominant minority, relies heavily on external capital and technology. How much more reliant would be a new regime having to answer to a much larger support base and therefore more earnestly in need of economic expansion?

Since the Soviet Union demonstrates neither the capability nor the willingness to take on the task of subsidizing an economy like South Africa's—as it has for the less developed and much less sophisticated Cuban economy—there would simply be no alternative open to a new Government of South Africa but to turn to the West for the supply of needed capital, technology, and management.

This argument applies with equal if not greater force to the other mineral-rich countries of the southern African region—Angola, Mozambique, Zambia, and Zimbabwe—each require access to external capital and technology if their ambitions in respect to economic development are to be realized.

All except Mozambique currently have a significant mineral and mining sector, and Mozambique has plans to create one. In Angola, petroleum exports are reported to supply up to 80 percent of foreign reserve earnings and over 60 percent of total Government revenue. In Zambia, copper exports are the base of the economy and, indirectly, of the political regime, the mining sector in Zambia contributing fully 90 percent to export earnings.

What these statistics indicate is that for these countries and others like them economic health, social welfare, and political survival are all ultimately dependent upon mineral production and its export. The sale of minerals abroad provides the resourcers to expand and modernize the economy and provide the foreign reserve to input everything from machinery for industrial production to elite perfume for consumption, and it provides even the money to pay the salaries of Government employees.

Given this situation, and given the development and welfare goals pursued by African governments, especially ones adhering to a radical orientation, there is simply no way that an African country possessing significant mineral wealth can forgo production for sale abroad. It happens that the only significant customers are found in the industrial West and in Japan.

Thus, mineral-producing effort in countries, whatever their ideological coloration, as I said, are locked into selling their minerals to the West.

Now, it is not necessary to rest my case regarding the compatibility of African radicalism and Western economic interest on this kind of structural logic I just presented. An examination of the policies adopted by radical southern African States reveals that this is not just some ivory tower theory, but rather it is reflected in actual experience.

If radicalism and close relations by African States with the U.S.S.R. portend a resources war, then Angola should be taken as a litmus paper test of this proposition. Politically, there can be no doubt of the close relationship between the Government of Angola and the Soviet Union. But political alinement is not predictive of Angola's economic policies. In that area, that is, in the area of economic policies, the Marxist government has emphatically pursued a policy of nonalinement.

From its very outset, the Government declared its intention to seek foreign capital involvement in the economy and particularly with respect to developing its rich mineral endowment of oil, diamonds, iron, copper, lead, cobalt, silver, and uranium.

These intentions have been continually reinforced by numerous Government delegations traveling in Europe and the United States, and by the promulgation of investment laws whose terms for private foreign investors compare quite favorably with those available elsewhere in Africa. The Government has indicated its intention to expand the production and export of petroleum and has opened up a large area of Angola's coastline to oil exploration.

In this regard, it has talked with at least a dozen U.S. companies and signed oil prospecting agreements with firms from Western Europe and America.

Gulf Oil, which has traditionally dominated oil production in Angola, has developed an amiable working relationship with Angola's Marxist Government.

Soon after the civil war of 1975–76, Gulf production and sales were providing the majority of Angola's foreign exchange and Government revenue. By 1980, the American company and the Angolan Government had successfully negotiated a partial nationalization of the Gulf facilities which left Gulf with a larger equity stake than is permitted in the minerals sector by other more conservative African Governments—such as Nigeria and Zambia.

The ultimate irony in regard to the resources war scenario which the Cuban-Soviet presence in southern Africa supposedly launched, lies in the fact that the Cuban troops in Angola have provided security to the expatriate crew at the Gulf facility in Angola, protecting them from the local insurgent group that seeks autonomy for the Cabinda enclave in which Gulf's facility is located.

Not surprisingly, the realities of the Angolan situation are perceived quite differently by the American companies on the ground than by the globalist theorists of resources war operating from Washington. "The surface indications are not always as real as they seem," a senior Gulf executive told the Wall Street Journal. "The Angolans adopted a pragmatic approach. They are interested in seeing their resources developed and want the best technology and services."

If one looks beyond rhetoric and observes the actual policies of Marxist states in southern Africa such as Angola, which I described—but one can also look to Mozambique and Zimbabwe—then the notion of a resources war is to my mind revealed as a fantasy. The reality is in fact the reverse.

In the real world we find the States of southern Africa, Marxist and conservative alike, striving to attract Western investment and technology so as to expand the export of minerals to the only customers that exist for them—the United States, Western Europe, and Japan.

Now, the resources war scenario whereby southern African States allied with the Soviet Union undertake a political strategy of resource denial represents—as the other witnesses have pointed out—only one form of Western vulnerability in respect to strategic minerals.

The other and far more plausible vulnerability exists in the area of short-term interruptions in supply produced by political upheavals that disrupt mining operations or transportation facilities. It is important to distinguish these two forms of vulnerability because the policy implications of each are quite different.

The threat of a resources war calls forth an interventionist policy so as to prevent radical political transformation and contains the spread of Soviet influence; the political upheaval/supply interruption scenario points toward a strategy of prudent stockpiling, as the other witnesses have already pointed out.

The key things to understand about the threat of supply interruption stemming from political insurgency is that it is limited in regard to both effect and duration. While future insurgent violence in South Africa could well interfere with the smooth flow of mineral supplies, it is difficult to conceive of a situation in which such interruption would be total.

Insurgent violence could have an effect on some mines, railroads and ports, but it is hardly likely to shut down all mines and means of transportation simultaneously. Thus, while Western supply vulnerability to political unheaval in the key South African source is real, it should not be exaggerated. Political upheavals in southern Africa, even when they affect supplies, are not going to produce the kind of complete shutdown and result in crises in the industrial world as is envisioned in the resources war scenario.

Because both the status quo Government and the insurgents, should they be successful, have a strong interest in restoring mineral exports—they indeed are their chief means to rebuild their economies and societies—supply interruptions can be expected to be only temporary affairs.

Consequently, the stockpiling of strategic minerals which the West imports from southern Africa is the appropriate means to deal with vulnerability posed by political upheaval.

As has already been pointed out, the United States has stockpiles of most of these minerals that are essential from southern Africa for between 2 and 3 years. It is important to point out that the Europeans and the Japanese have been less effective at building stockpiles, and the United States will be called upon to share its stockpile of reserves by its allies should there be some sort of political crisis cutting down on supplies. This would be a problem for the United States.

The answer, of course, is to encourage, to provide pressure upon our allies to gradually build their own stockpile of strategic minerals.

Thus, in conclusion, while dependence on southern African minerals creates United States vulnerabilities in the event of revolutionary upheaval, especially in the Republic of South Africa, these are vulnerabilities that can be relatively easily managed. A prudent policy of gradually building the U.S. stockpile in areas in which it is low, and of encouraging allies to do likewise, is what the situation calls for.

Thank you.

[Mr. Price's prepared statement follows:]

PREPARED STATEMENT OF ROBERT M. PRICE, ASSOCIATE PROFESSOR OF POLITICAL SCIENCE, INSTITUTE OF INTERNATIONAL STUDIES, UNIVERSITY OF CALIFORNIA, BERKELEY

There can be little doubt that the complementarity between certain raw materials essential for modern industrial production, on the one hand, and the unusual mineral endowment of southern Africa, on the other, creates a very real U.S. national interest in maintaining continuous and secure access to African minerals. Moreover, since the flow of minerals depends upon the continuous development of reserves, it is also necessary, from the Western point of view, that there be continuous application of capital and technology to at least certain sectors of Africa's mining industry. The combination of this vital U.S. national interest in southern Africa with the increased Soviet influence in the region after 1975 is the basis of the perception that the United States is engaged in a resources war in southern Africa. The emergence of radical or Marxist states aided by the Soviet Union is seen as placing the West's access to the region's minerals in jeopardy. The resources war notion assumes that these radical governments in collaboration with the Soviet Union are likely to deny essential materials to the West in a politically motivated effort to undermine the capitalist industrial economies. The ultimate calamity in the resources war perspective would be the radical transformation of the Republic of South Africa, since it is the major source of strategic resources in the area.

Despite the nearly universal belief that radical political transformation in Africa will jeopardize the West's access to essential minerals neither logic nor experience supports such a notion. If anything, an examination of the structure of southern African economies and of the policies of the existing Marxist states reveals the reverse. Let us look first at the Republic of South Africa, since it is there that the West's interest in access to minerals is most vitally engaged.

One of the primary and fundamental structural aspects of the South African economic system is the production of minerals for export. The mining sector is significant not only in terms of its contribution to GDP (contributing approximately 18 percent) and employment, but also because the export of a large proportion of its product earns the necessary foreign reserve ($19 billion annually) to finance the essential importation of technology and of industrial and consumer goods. No South African government, however radical, could afford to forego the revenue earned by mineral exports, and the only significant market for South African minerals is the U.S. and its allies. Thus any government in power in South Africa, whatever its ideological coloration, would be locked into selling its industrial raw materials to the West just as the West is locked into buying them.

Ironically, this would be <u>especially</u> true for a radical African regime, which would, one must assume, attempt to satisfy the social welfare demands of the population to a greater degree than the present minority government. The resources to pay an enlarged welfare bill--for education, health facilities, housing, and the like--would have to come out of overall economic expansion, and given the nature of the South African economy such an expansion would entail as one of its crucial elements an increase in export earnings. Thus a radical regime in South Africa, interested in increasing its foreign reserve flow, would be motivated to <u>expand</u> the export of its minerals and not the reverse. This has implications for government policy in the area of foreign capital and technology as well. The domestic need to increase mineral export earnings and thus to maintain and even increase mining production, combined with the need to expand overall industrial production as a basis for increasing welfare and employment, would place a radical regime in South Africa in the position of seeking external capital, technology, and management resources. Even the present economic system, controlled by the dominant minority, relies heavily on external capital and technology. How much more reliant would a new regime be--having to answer to a much larger support base and therefore more earnestly in need of economic expansion? Since the Soviet Union demonstrates neither the capability nor the willingness to take on the task of subsidizing an economy like South Africa's (as it has the less developed and less sophisticated Cuban economy), there would simply be no alternative open to a new government of South Africa but to turn to the West for the supply of needed capital, technology and management.

The above argument applies with equal--if not greater--force to the other mineral-rich countries of the southern African region. Angola, Mozambique, Zambia, and Zimbabwe each require access to external capital and technology if their ambitions in respect to economic development are to be realized. All except Mozambique currently have significant mineral and mining sectors and Mozambique has plans to create one. In Angola petroleum exports are reported to supply up to 80 percent of foreign reserve earnings and over 60 percent of total government revenue. In Zambia copper exports are the base of the economy and, indirectly, of the political regime as well. The mining sector in 1980 contributed fully 90 percent to export earnings, 30 percent to government revenue, and 20 percent to GNP. Zimbabwe with its more diversified economy relies

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less on mineral exports overall, but the minerals sector generates more income than any other sector. Ninety percent of Zimbabwe's mineral production is exported.

What these statistics indicate is that for these countries, and others like them, economic health, social welfare and political survival are all ultimately dependent upon mineral production and its export. The sale of minerals abroad provides the resources to expand and modernize the economy, the foreign reserve to import everything from machinery for industrial production to perfume for elite consumption, and even the money to pay the salaries of government employees. Given this situation, and given the development and welfare goals pursued by African governments, especially ones adhering to a radical orientation, there is simply no way that an African country possessing significant mineral wealth can forego production for sale abroad. And it happens that the only significant customers are found in the industrial West. Thus mineral-producing African countries, whatever their ideological coloration, are locked into selling their minerals to the West just as the West is locked into buying them.

It is true that radical governments would be likely to pursue an economic strategy whose goal would be economic diversification, and thus less overall reliance on the minerals-export sector, but this would entail a decline in mineral exports relative to other economic sectors--not an absolute decline. Indeed the very goal of diversification implies a continuation and even expansion (in absolute terms) of mineral exports, since only from this sector can the capital and foreign reserve necessary to finance new economic activity be generated domestically.

It is not necessary to rest my case regarding the compatibility of African radicalism and Western economic interests on the structural logic I have just presented. An examination of the policies adopted by radical southern African states reveals that this is not just some ivory tower theory, but rather that it is reflected in actual experience. If radicalism and close relations by African states with the USSR portend a resources war then Angola should be taken as the litmus paper test of this proposition. Politically there can be no doubt of the close relationship between Angola and the Soviet Union--its present government was installed in power with substantial assistance from the Soviets, it is dependent on the Soviets to maintain itself in office, it has signed a Treaty of Friendship with the USSR, and it voted with the Soviet Union on Afganistan in the United Nations. But political alignment is not predictive of Angola's economic policies. In that area the Marxist government has emphatically pursued a policy of non-alignment. From its very outset the government declared its intention to seek foreign capital involvement in its economy, particularly in respect to developing its rich mineral endowment of oil, diamonds, iron ore, copper, lead, cobalt, silver, and uranium. These intentions have been continually reinforced by numerous government delegations traveling in Europe and the United States, and by the promulgation of investment laws whose terms for the private foreign investor compare quite favorably with those available elsewhere in Africa. The government has indicated its intention to expand production and export of petroleum and has opened up a large area of Angola's coastline to oil exploration. In this regard it has talked with at least a dozen U.S. companies and signed oil prospecting agreements with firms from

Western Europe and America. Gulf Oil, which has traditionally dominated oil production in Angola, has developed an amiable working relationship with Angola's Marxist government. Soon after the Civil War of 1975-1976, Gulf production and sales were providing the majority of Angola's foreign exchange and government revenue. By 1980 the American company and the Angola government had successfully negotiated a partial nationalization of the Gulf facilities, which left Gulf with a larger equity stake than is permitted in the minerals sector by other more "conservative" African governments. The ultimate irony in regard to the resources war which the Soviet/Cuban presence in southern Africa supposedly launched, lies in the fact that Cuban troops have provided security for the expatriate crew at the Gulf facility in Angola, protecting them from a local insurgent group that seeks autonomy for the Cabinda enclave in which Gulf's facility is located. Not surprisingly, the realities of the Angolan situation are perceived quite differently by the American companies "on the ground" than by the "globalist" theorists of resources war operating from Washington. "The surface indications aren't always as real as they seem," a senior Gulf executive told the Wall Street Journal. "The Angolans adopted a pragmatic approach....They're interested in seeing their resources developed and want the best technology and services."

If one looks beyond rhetoric and observes the actual policies of "Marxist" states in southern Africa such as Angola, Mozambique, and Zimbabwe, then the notion of a "resources war" is revealed as fantasy. The reality is in fact the reverse. In the real world we find the states of southern Africa, Marxist and conservative alike, striving to attract Western investment and technology so as to expand the export of minerals