A UNITED STATES MINERALS POLICY

2 November 1954

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Washington, D. C.

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COLONEL CONNER: Colonel Baird, ladies, and gentlemen: During the past six weeks we have had lectures dealing with the various specific categories of natural resources. We also had a lecture on the stockpiling program. In addition we researched and discussed the Soviet raw materials problem. Then we took a somewhat limited look at the Paley Commission report. Today it is indeed appropriate that in our concluding lecture we focus our attention on all of these considerations in terms of the United States minerals policy.

This morning we call on the experience and knowledge of a gentleman who for many years has been recognized and respected by the legislative and executive branches and by industry as an outstanding authority on our raw materials problems.

It is indeed a pleasure and an honor to introduce to you and welcome to this platform Mr. Elmer W. Pehrson, Regional Director, Region 9, Bureau of Mines. Mr. Pehrson.

MR. PEHRSON: Thank you, Colonel Conner. Colonel Baird, members of the class: These introductions are sometimes more flattering than they should be; this morning's introduction is no exception. I have been sounding off for a great many years on the subject of mineral policy; but, as far as having any impact on either the executive branch or the legislative branch, I fail to see it. Nevertheless, we carry on the crusade.

Your very energetic Colonel Conner has outlined my talk for me today as follows: "The need for a positive, long-range minerals policy for the United States. Problems affecting the determination of such a policy, to include economic, political, and national security considerations. The points at issue between the Paley Commission report and the Malone Committee's findings. A discussion of the issue of domestic development versus international investment and the development of foreign mineral resources." That is quite a task for one morning. Obviously, we shall have time only to hit some of the high spots.

In all fairness I should tell you that I haven't come here prepared to give a learned lecture. The Bureau of Mines has been undergoing its fourth reorganization since 1942--all summer and all fall. So there hasn't been much time for serious study or constructive work. We have been shuffling papers around. But I have jotted down some notes and will ramble along for a while, with the hope that, after I have run out of ideas, some of you will have been stimulated to take issue with some of the things I have said. Opinions expressed are my own and do not necessarily reflect viewpoints of the agency with which I am associated.

There was a time when I was intimately associated with the activities of the executive branch in stockpiling and therefore had an easy opportunity to keep posted on what was going on. That has not been the case in the last five years. So I have had to do a little "boning up" in preparation for this morning's session.

One of the things I have discovered is that the minerals policy of the United States is still pretty much confused.

Basic Assumptions Important in Policy Determinations

An individual's reaction to a policy and his evaluation of a policy reflect his personal views on many fundamental factors. Therefore it is incumbent on anyone imposing on your time to at least lay out in frank terms how he stands on the various points at issue.

The first one of these is, What are the facts about our mineral position? We could spend considerable time developing this point; but I notice that in the curriculum you have been pursuing in the past few weeks this subject has been well covered. Nevertheless, I have one or two general thoughts I would like to discuss in a moment.

Then I think one's personal inclination in matters of political, economic, and social philosophy requires elucidation. If we are socialistically inclined, we see the green light on certain types of policy; if we are not socialistically inclined, we see only the red light on those policies. As I review the actions of this Government in recent years, I see red or pink more often than I see green.

Now, as military men you will not be particularly concerned with the kind of society we live in. Your job is to defend the Nation regardless of basic policy. So it is conceivable that you are not too much interested in that phase of the problem, although I think you should know how your speaker stands on some of these topics.

United States Mineral Position Basically Strong

With regard to the United States minerals position, I want to emphasize one or two points. The first one is that we should never lose sight of the fact that we are where we are in the family of nations because the good Lord saw fit to put abundant mineral wealth in our country, and also saw fit, or we saw fit, whichever you choose, to develop some people who knew what to do with it.

It has been pointed out on many occasions that there are other nations, apparently as well endowed as we in mineral wealth, which have not progressed very far. The classic example is Russia, which apparently has the opportunity to develop within its own borders mineral wealth equal to ours. But aside from the U.S.S.R., no other nation has within its own borders the mineral wealth that we have. We must bear in mind always that our economic well-being, our standard of living, our industrial and military might primarily result from the fact that we do have mineral resources in this country--primarily coal and iron ore. But we also have vast deposits of other minerals, which give quality and variety and thus add strength to the many facets of our industrial economy. I emphasize this point because a little later I wish to stress the thought that we should consider minerals apart from other commodities and not give them the same treatment we give shoelaces, suspenders, collar buttons, et cetera, in our international trade experimentation.

The mineral problem has been receiving much public attention in recent years because of the fact that we are undergoing some basic changes in our mineral position. I have sometimes been damned by my friends out west as one of the principal espousers of the concept that the United States is rapidly becoming a "have-not" nation. I do not have that point of view. To the contrary I think we are decidedly a "have" nation, and we are indeed fortunate in having the mineral base on which our industrial well-being is built well protected for the future from a reserve point of view. However, we need to do some things about making better use of these resources in view of our declining self-sufficiency in certain raw materials that are indispensable from the security and prosperity points of view.

So we may summarize our basic concept of our mineral position as follows: We are a strong nation. We will remain strong; our resources are ample to guarantee that. We have serious problems already. We have others in the offing that we should do something about.

Imminence of War

Another fundamental point on which assumptions have to be made is the kind of international situation in which we find ourselves. I shall be rather critical of the main conclusion of the Paley Commission report; primarily, because it glosses over the fact that we are living in very perilous times. I am one who believes that we are existing under an armed truce, and that global war on a scale never before envisioned is a very decided possibility. Therefore, we should not take a too long-range view of what our raw material policy should be. We should put national security in a military sense right at the top of our list.

Creeping Socialism

I have already mentioned the importance of one's outlook on socialism or regimentation versus free enterprise in formulating mineral policy. Too much of our thinking, and many of the recommendations of the Paley Commission report, and, indeed, some of the Malone Committee recommendations, imply that we should put our entrepreneurs in the minerals field in strait jackets, and subject them to control by bureaucrats in Washington. Being a bureaucrat myself, that observation may not be too wise; nevertheless, it is one that I believe in. If we really mean what we say when we state that we have a political and economic system in this country that really works and would like to see the rest of the world give it a try, we ought to live within the precepts of that system, not just give lip service to it. Too often analysts who deal with raw material problems start out with the concept that profit is sinful. Profit is the heart of the free enterprise system, and without it the system will perish on the limb.

I would like to see a policy developed that recognizes the need for encouragement of mineral production in this country. The policy also should provide for stimulation of activities abroad designed to make up those mineral deficits that are inevitable in our domestic mineral industry. The incentives should be set up so that individual businessmen are free to make their own judgments with regard to particular enterprises. Even during the Korean mobilization, businessmen have had to run the gamut of review after review, with many of the reviewers having little or nothing to contribute to judgment as to whether a proposal was good or bad. This slows up action and frustrates initiative. So let us try to preserve a free enterprise system in this country when we establish a national minerals policy.

We have gone through 20 years of heavy emphasis on free trade, a program I take some exceptions to. My exceptions are confined to minerals. Not being an expert in the general field of international trade I would not venture an opinion on the overall aspects of the reciprocal trade agreements program but I do take a very dim view of how it has affected our mineral industry.

Establishment of Sound National Mineral Policy Long Overdue

Doubtless you are well aware of the historical lack of interest on the part of the Federal Government, and, indeed, of the military, in the problem of strategic raw materials. Apparently we entered World War I without any advance thought having been given to mineral supply. Some of you probably have memories that go back that far; most of you look too young. But I recall the harrowing experiences we had in 1917 and 1918 trying to keep the steel industry in this country going in the face of shortages of ferroalloying minerals.

At the end of World War I, we thought we had learned a lesson and were going to do something about it. The National Defense Act was amended in 1920 to provide for an Assistant Secretary of War and an organization to engage in mobilization planning. Still nothing was accomplished. In the 20 years intervening between World Wars I and II, there is no evidence that the executive branch, including the military, ever made any serious proposal about stockpiling. It was not until war clouds gathered in Europe in the late thirties that serious interest developed in the executive branch. The first effort was primarily protective, in order to offset some of the moves being taken by mischievous Congressmen, who seized upon the critical materials situation and the growing war clouds as excuses for all kinds of subsidy legislation, that ostensibly was for national defense, but primarily designed to siphon public money into the pockets of constituents back home. Some officials of the State Department viewed with alarm the kind of legislation that was being introduced into the Congress to take care of the raw material problem, and at long last the executive branch took positive action.

After considerable delay and horse trading, Congress passed the first Strategic Materials Stockpiling Act, Public Law 117, in 1939. This proved to be a classic example of "too little and too late." The ink was hardly dry on the approval signature before the bill had to be shelved. We had become suddenly so heavily engaged in preparation for war that much broader powers for dealing with raw materials for mobilization had to be obtained from the Congress.

Again in World War II, because we were too late getting started on stockpiling and in planning for raw material procurement, we had all kinds of difficulties with which most of you are familiar. Fortunately, at the end of World War II we obtained a revised stockpiling law which I think is a quite satisfactory piece of legislation. We have made considerable progress under it, although we have lost numerous opportunities.

More recently there has been a restatement of stockpiling policy by the White House. In general the new policy represents progress; we are moving in the right direction.

The military establishment has long wished to keep stockpiling within the narrow concept of military defense. Now to have it broadened to encompass some of our domestic economic problems is probably painful to many of you. But that shift in point of view was inevitable because our raw material problem is much broader than just stockpiling. Whatever we do on the strictly military side has to be coordinated with what we do on the peacetime economic side.

Long- Versus Short-range Mineral Policy

Getting back to the specific task Colonel Conner has imposed on me, the first item was "Need for a positive, long-range minerals policy for the United States."

Probably the word "long-range" is not good. As I mentioned earlier we are living from hand to mouth in a world that may break out in global war any day. Consequently, long-range policy has to be tabled for the time being and we have to live for the present, say a period of 10 years or more. I don't know when this situation is going to come to a head, or whether it ever will come to a head. Prudence requires that we assume that a showdown is imminent. Therefore, the first need for a firm minerals policy is to minimize or eliminate the risk of being caught without adequate supplies of the raw materials that are indispensable to the security of the Nation.

Incidentally, in peacetime they are indispensable for the prosperity of our Nation. And when we think of prosperity, we must not only think in terms of levels of manufacturing and industrial production indexes. We must think also of the local economies of our mining states, which have large segments of their population dependent on the mining industry. Sometimes we lose sight of that. I don't think it is a matter of overwhelming importance in the formulation of policy, but it certainly is entitled to major consideration.

Declining Self-sufficiency Warns of Danger Ahead

We must review our minerals policy, if we have such a thi sometimes I think that we don't--because we find that under pre conditions some domestic resources are unable to support a ra duction that will keep up with expanding demand. Classic exam this are the changes in our positions in copper, lead, and zinc of substantial self-sufficiency or export surplus before the war of substantial import requirements today.

Oil is trending in the same direction. I am not at all happy the uncertainties we are facing in our oil future; it is one of the spots in our preparedness on the mineral front.

We have a situation arising in iron ore which requires mor attention than it has received to date. As you know, the industr decided that it will move into substantial dependence on imports foreign ores. Heretofore we have been essentially self-sufficie this commodity. In addition we have been blessed with an enor stockpile of direct shipping open-pit ores in the Mesabi Range. open pits have served us well in two emergencies, but they are pleted to a point where expansion of output is not possible. We loss of flexibility in production capacity facing our iron ore indu In addition we are increasing our dependence on seaborne traffi hazardous development, particularly in view of the fact that app no great interest is being shown in the defense problem that this iron ore source is creating. If we are going to permit unbridle ments toward dependence on foreign iron ores, national security that we take some steps to see that the hazards involved in that are corrected.

Our mineral policy should be concerned deeply with whethe we can arrest the declining self-sufficiency in these very impor materials.

Problems Arising in Importation of Minerals

Then, too, we find changing world conditions. Prior to Wo II, we never used to worry much about the fact that we had to im raw materials, because price was a marvelous governor. If we something badly enough, the price would reflect that need and th no trouble about getting the materials. But now we find that the is changing, and the certainty that raw materials will automatic to our country is changing, too.

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nd industrial development abroad have recieved
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eral Policy

t Colonel Conner asked me to discuss was the
etermination of such a policy. That is a very
ly hit the high spots this morning. Possibly

the best thing to do with this topic is to state what overall objectives should be sought in a national mineral policy.

First and foremost is the assurance of an adequate supply of mineral raw materials in peacetime and wartime. In pursuit of this objective I want to emphasize--and this, I think, is my principal complaint with the Paley Commission report--that price is definitely a secondary consideration.

A second major objective of a national minerals policy should be the efficient use of the Nation's mineral resources.

We also have the question of the importance of local employment, particularly in our mining communities, a point we have already touched upon.

Conservation

On the question of the efficient use of our national resources, there are plenty of places where Federal action seems to be justified. Despite my passion for free enterprise, I do feel that some practices of industry are ill advised from the standpoint of national well-being and that something ought to be done about them. For example, in mining coal we waste half of the coal measures. In Europe such practices are not tolerated. I happened to be in England in 1946, at the height of the coal shortage. In visits to several coal mines, I found no place where conservation of coal was being sacrificed in order to get tonnage. The idea that coal was a precious national asset that could not be replaced was deeply ingrained in everybody's mind. They would not think of wasting any of their resources in order to get a temporary advantage in production. We certainly do not operate on that basis in the United States.

I feel also that, in view of our limited supplies of petroleum and natural gas as compared with our vast resources of coal, it is not in the national interest to permit the exploitation of oil and gas reserves without any limitation whatsoever, which is the case at the present time. I realize that action to ameliorate this situation poses a very difficult political question, and that strong arguments can be proposed in support of complete freedom in this area of competition. But when we have our number-one basic industry in the doldrums, as coal mining is today, with all the social consequences of unemployment, plus the uncertainty of our ability to produce the coal we would need should an emergency suddenly come upon us , we could well afford to give some thought to regulation in order to achieve wiser use of the Nation's fuel resources.

Exploration

Our national mineral policy should seek to improve our domestic situation in the strategic minerals. Perhaps the most pressing need we have is to stimulate the search for new deposits. Geological mapping of the conventional type is needed, but we also need some fundamental, or ivory-tower thinking on the problem of finding hidden deposits.

Everybody agrees that we still have enormous mineral wealth in this country that has not yet been discovered. The question is how to find it. I do not think the problem is going to be licked by the geologists or even by the geophysicists of today. If we are going to solve it, we have to get an Einstein type of mind working on the problem. I don't see much of that sort of thing going on at the present time.

The Paley Commission had a very firm recommendation on this point. But, unfortunately, the implementation of the recommendation has been placed in the hands of geologists. Because their thinking is naturally circumscribed by geological concepts they have limited vision on ways and means of solving this very difficult problem. I see some of my geologist friends in the audience. They probably will want to shanghai me after the lecture.

Technologic Research

We also need more fundamental research in the technologic phases of minerals, and to press ahead with the search for substitutes for those materials which we cannot produce at home. Postwar developments are very encouraging. For example, we can now produce quartz crystals of superior quality by synthesis; but we cannot match the natural material from Brazil in cost. Our Bureau experts are very optimistic on the progress we are making in finding substitutes for some of the strategic varieties of mica. I understand that our dependence on Indian kyanite no longer exists and the mineral has been taken off the strategic list because we have developed ways and means of making mullite from Western Hemisphere raw materials.

Subsidies

A move toward subsidies to improve domestic production is decidedly necessary. For this purpose I much prefer tariffs over direct subsidies because I believe the businessman should be free to exercise his own judgment on individual enterprises under a climate established by Government.

There is always a question of how much premium we can afford to pay for domestic mineral production to meet our most serious needs. I have no trouble in my own mind in regarding a 100 percent ad valorem subsidy as acceptable in some instances. Some people would go much higher than that. Others would regard a 100 percent subsidy as extortionate if we can get the materials we need abroad at lower prices. The question of domestic versus foreign sources is a very large subject in itself.

Stockpiling

Finally, our minerals policy should provide for stockpiling, a subject well known to all of you.

I have already touched on some of the factors that influence importation in peacetime. In wartime the hazards of importation are so great that we should just forget about it and enlarge our stockpile objectives accordingly. The newly announced stockpiling policy seems to do just that.

Paley Report

In recent years several groups have studied the question of minerals policy. Perhaps the outstanding one was the Paley Commission. More recently we have had the Malone Subcommittee of the Senate.

I am sometimes amazed that foreigners and indeed many of our citizens, already regard the Paley Commission report as official national policy, and some regard the Malone Subcommittee's recommendations as official national policy. We should have it clearly in our minds that as yet neither represents national policy. They are merely recommendations of study groups. Congress has not acted on any of them and what is going to be accepted ultimately remains to be seen.

We also now have a Cabinet committee on minerals policy appointed by the President. I understand that the committee has formulated its report. It apparently was afraid to let it out before the election. You no doubt will get it between now and New Year's Day. Its content is a dark secret. I suspect and fear that it is going to be a strong bid for selling our domestic mining industry down the river.

But what are the differences we have with the Paley report recommendations? Some of us who take exception to the report do so primarily because of this statement:

"This Commission is convinced that if the United States and other free nations are to have such strength, they must coordinate their resources to the ends of common growth, common safety, and common welfare. In turn, this means that the United States must reject self-sufficiency as a policy and instead adopt the policy of the lowest cost acquisition of materials wherever secure supplies may be found; self-sufficiency, when closely viewed, amounts to a self-imposed blockade and nothing more.

"It is by these avenues of thought that the Commission arrives at the formulation of the major premise upon which all the rest of its report is based:

"The over-all objective of a national materials policy for the United States should be to insure an adequate and dependable flow of materials at the lowest cost consistent with national security and with the welfare of friendly nations."

Raw Materials Cost Minor Factor

I believe that cost is a decidedly minor factor particularly during the decade we are facing, and that the security of the United States is the overwhelmingly important objective. I am not disturbed about the failure of our raw materials policy to reckon too deeply with the welfare of friendly nations. Postwar experience fails to reveal convincing evidence that our concern for the welfare of friendly nations, which has cost us billions of dollars, is paying dividends in terms of support for our security program. Until we are convinced of that, we should pursue an isolationist policy with respect to security on the raw materials front.

Western Hemisphere Self-sufficiency Unattainable

The Malone Report takes violent exception to the basic philosophy of the Paley Report. It is rather encouraging to at long last have a congressional group take a rational view of the mineral supply problem and to acknowledge our inevitable dependence on foreign sources particularly on the Western Hemisphere. That is a step in the right direction.

The Paley report does not stress the Western Hemisphere, and there is danger in assuming that our problems can be solved within the

hemisphere. To the extent that we are going to encourage foreign production for security purposes certainly we can all agree that we should prefer projects in the Western Hemisphere. But, even though we have submarginal resources of minerals we now obtain from the Eastern Hemisphere--and many of them are sub-submarginal--we should not conclude that we can easily achieve hemisphere self-sufficiency. Costs and other factors involved in utilizing these deposits are apt to be prohibitive. My own view is that Africa represents the balance of power not only from the viewpoint of geopolitics in general, but also in mineral matters; we always will be dependent on the production of that continent for many of our essential mineral requirements.

The Bureau of Mines' and the Geological Survey's appraisal of the Western Hemisphere resources, as presented in the Malone report, points out that there is only one commodity, industrial diamonds, which cannot be produced in the Western Hemisphere in significant quantity in terms of hemisphere needs. The Bureau of Mines and the Geological Survey also visualize that, even under the most optimistic developments, we will be partially dependent on the Eastern Hemisphere for some very potent raw materials for security, such as chromite, cobalt, columbium, tantalum, tin, tungsten, and asbestos.

Tariffs

On the question of tariffs, the Malone and Paley reports are far apart. My own view is that tariffs are desirable when we can make a good case for them. A tariff should not be set up just because somebody has the idea that maybe we can solve a strategic mineral problem if we have a high-enough tariff. If protective tariffs are to be imposed they should be based on sound economic and technical data which justify the assumption that the duties proposed will achieve constructive results for security.

The Paley Commission recommendation assumes that abandonment of self-sufficiency should be attempted only when such action is consistent with national security, but it is hard to find any exceptions made in their recommendations for individual commodities. There is a strong plea throughout the report for the abolition of tariffs, and the Randall Commission and other reports have carried forward this idea. Indeed, the recent Executive action taken on lead and zinc seems to indicate that this Administration up until today is adopting the free trade approach to our minerals problem and is willing to settle individual industry crises as they come up on an expedient short-term basis.

International Controls

The Malone report recommends that such controls should be instituted only with the sanction of Congress. Nobody can quarrel with that. International controls, certainly in time of emergency, such as the activity of the International Materials Conference during the Korean mobilization, are essential. If you don't have some kind of cooperation at such times, chaos will result; experience has demonstrated that mineral supply cannot be expanded rapidly even in an emergency. I would go considerably further than the Malone report and promote the cartel type of control mechanism.

The Paley report takes a rather positive view on encouraging international controls on commodities, but only at the Government level. I would prefer to have our antitrust laws modified so that businessmen could get together domestically and internationally to discuss the problems of their industries and take steps to solve them through cooperative action. By "businessmen" I mean producers and consumers. There is a false notion abroad that cartels should be operated for the benefit of the producer alone. The consumer of mineral products has just as much stake in stabilizing the producing industry as does the producer, and if he hasn't waked up to that fact, he is somewhat behind the times.

Over the years my discussion with the tin consumers in this country have indicated that many of them have been sympathetic with the desire of tin producers to stabilize their industry. They realize assurance of adequate supplies for the future requires that producers be permitted to operate under a price which will provide profits sufficient to cover the risks of the business and incentives to encourage constant and vigorous prospecting and development. Stability of price that will achieve these objectives is much preferred by the enlightened tin consumer over the widely fluctuating tin prices that have prevailed in the past.

In addition to these benefits to business, international cooperation in the mineral field will contribute to other objectives that are decidedly in the public interest. For example, orderly extraction of mineral deposits possible under cooperative action can make worthwhile contributions to conservation. Violent ups and downs in price always encourage wasteful practices in mineral production. Stabilization will permit long-range production programs under which maximum utilization of reserves and stabilization of employment can be attained. Because so much of our tin comes from Southeast Asia where the Communist pressure is heaviest, any reasonable action by the free world to improve the economic condition of the tin workers makes international political sense.

Our deliberate abstention from present international cooperation seeking tin stabilization presents further evidence of our lack of a realistic national mineral policy and the naivete we display at times in fighting the cold war.

Need for Fundamental Research

Further evidence of our lack of an adequate mineral policy is our neglect of fundamental research. As the problems of maintaining mineral supply are sure to multiply, scientific inquiry should be stimulated so that we will be able to meet them as they arise or better yet prevent them from arising. Federal appropriations for mineral research have increased substantially above pre-World War II levels but emphasis has been shifted away from fundamental investigations to applied technology and costly large-scale demonstration pilot plants. The latter type of activity has grown up in Government over the last several years in part from the idea that private industry is so dumb, or so lacking in agressiveness, that, unless, you can demonstrate beyond doubt that a new process is both technically and economically feasible, industry will not take it up. This is an erroneous viewpoint. The record shows that once a Government scientist hits upon a new idea, all he has to do is to announce it and industry will use it when the economic pressures justify such action. If our private enterprise system ever lacks initiative to do this, we had better modify it.

Lack of Government interest in fundamental mineral research is showing. Recently we had a group of 20 metallurgists from Europe visit this country. One of the first questions they asked when they got to Washington was: "Why is the Bureau of Mines doing so little fundamental research in its laboratories?" They were nonplussed by the fact that most of our men were working on specific mineral deposits or trying to find a commercial process for utilizing a particular mineral resource.

We need to change this situation. It has been difficult in the past to get Congress to appropriate money for pure research in the minerals field. But it has not been too difficult to get a Senator or Congressman, who had a submarginal deposit in his constituency, to make a substantial effort to get funds for research on that particular deposit. I don't think that is the proper way to solve our mineral problems. Government's role in research should be restricted largely to fundamental inquiry that anticipates the problems of 25 or 50 years hence--problems too far off or too submarginal to justify expenditure of private funds.

New Stockpiling Policy Represents Progress

Now, we might devote a moment to our new stockpiling policy. The fact that it changes the ground rules on which the stockpile objectives are computed is all to the good. As I read the directive, it indicates that we are to calculate stockpile objectives on the assumption that very few imports will be available to us in time of war. That is decidedly sound.

It ties in the exchange of agricultural surpluses for strategic war materials with the stockpiling program. It is unfortunate that we find ourselves in the position of having agricultural surpluses. But having them we should certainly try to swap them for something that we can use, even though we take quite a beating in the process. This also is a step in the right direction.

The tying-in of stockpile purchases with efforts to stabilize industries in times of temporary depression seems to me to be acceptable. I would, however, much prefer to see our subsidy programs, whether they be tariffs or direct subsidies, placed on a long-term basis rather than on the hand-to-mouth basis that now prevails. Witness, for example, the situation we now have in tungsten. We have established a price which has brought self-sufficiency to the United States in tungsten. Yet we are piling it up way beyond the stockpile requirements because industry prefers to buy the imported material which is available at a much lower price. If we had adopted a tariff rather than the direct subsidy, we would have passed the cost of the program on to the consumer and would have relieved the taxpayer, at least directly, of an unnecessary burden.

We are also pursuing a shortsighted policy in the field of lead and zinc. I was perhaps the most surprised individual in Washington when the Tariff Commission actually recommended that we set up a tariff in order to help the lead and zinc industry out of the doldrums. It was a matter of some disappointment when the President didn't go along with the idea. We are only temporizing by the measures that have been adopted here.

One point in the program that seems to be so naive as to be almost ridiculous, is the directive to the Secretary of State to get foreign countries not to take unfair advantage of the new program because it is designed primarily to aid domestic producers. Our European friends feel the same way about it. An editorial in the "London Mining Journal" of 25 August 1954, commenting on the lead and zinc program, headlines it as follows:

"President Eisenhower Takes a Political Decision. This disturbing and seemingly naive step is presumably to be taken as no more than a political gesture for home consumption, as, in the absence of the imposition by the Administration of strict import quotas, surely it is quite unthinkable that some increase in world prices must not inevitably follow from the increase in domestic prices, which the new program seems to assure."

We need to get our raw materials policy on a much sounder basis.

Now, I think that we have explored this subject in general terms sufficiently to have perhaps stimulated some challenging questions or comments from the audience.

QUESTION: Why can't we buy tin direct from Bolivia? Why does it have to go to London first in the process before we get it?

MR. PEHRSON: That is a good question. Under the old regime the principal mine owners in Bolivia also had extensive smelting interests. A very important business principle in mining is to shift the profits of mineral production from the production of the ore to the smelting of the ore, or, as has been done in some cases in the past, to the transportation of the ore.

If you find the tax climate of the country where the ore is produced pretty rugged, you then shift your profits to the smelting industry which you conduct at some other place. The smelting of most of the Bolivian ores in Europe prior to World War II was due in part to this fact. Other reasons were the lack of fuel in Bolivia and the fact that European smelters had a monopoly on high-grade ores which could be mixed with the low-grade Bolivian ore to get a better smelting product and a lower smelting cost. British smelters could smelt more cheaply than we could in this country.

Now, the reason we built the Texas smelter at the beginning of the war was to hedge against the danger of having all the smelting capacity in Europe bombed out. The capacity of the Texas City plant was approximately equal to the total usable capacity existing in western Europe at the beginning of the war. All of this capacity was never used although it did provide protection against the possible loss of Europe to the Allies.

It has always been assumed that smelting in the United States in peacetime could not compete with smelting in the European countries. They have a long tradition and know-how in the business. Tin smelting in America is new to us.

We now have a smelter here. Of course, there is great debate on what is to become of it in the future. From the standpoint of defense, ignoring this new factor of bombing plants, it has never seemed to me that there was much security in smelting tin in the United States as long as we still have the long and hazardous ocean transport of ore from Bolivia. A smelter might result in our having a little more inventory of tin in process but that never seemed so important. A smelter in the United States would not be of much value from the security angle except for the fact that in a war we might lose the smelting capacity of Europe.

QUESTION: Did I understand you correctly that in viewing the use of cartels in the problem of imports, you visualize the representation of consumers in the process? I have never been naive enough to believe that that could be done. I have always visualized cartels as being entirely an effort to do something for the producers. Would you comment further on that?

MR. PEHRSON: The mineral industry group that has dealt longest with cartels is the tin producers. Up until the beginning of World War II, we had a very effective and important tin producers' cartel.

Advanced thinking on the subject of cooperation in the production of minerals has always included the notion that the object of a cartel is not merely to assure fat profits to the producers, although we must admit that mining is a risky business and that the concept of profits in automobile, clothing, or shoe manufacturing does not apply when it comes to mining. The feeling was that we were dealing with an irreplaceable resource; that the ups and downs of the free market were anticonservational and were forcing the abandonment or wasting of usable resources through the use of extravagant mining methods in times of low prices.

Also in most of the producing areas there is no alternative employment for the working force when it is not engaged in mining. If production can be placed on a stable basis, with accompanying greater stability of price, we would not only achieve a more conservational approach to mineral extraction but also we would provide stability of employment in remote areas.

It has always seemed to me that, since the principal tin-producing area is Southeast Asia, where now our number one Communist threat exists, as a nation we should encourage any international cooperation that would bring about stability of employment. Unfortunately, our Government's policy has been otherwise.

If we can get producers and consumers to cooperate and recognize the principles of business that are required for a healthy mining industry, we will have accomplished worthwhile social objectives.

The word "cartel" has come to have a vicious connotation, with all the left wing writing that has been done on the subject. And, of course, there is no question but that in the past a few cartels have been unduly extortionate in their objectives. The kind of cartel I am talking about is a situation where businessmen who know the problems of their industries can get together and operate for their common good. But, in order to prevent or minimize extortion, we must have consumers participating in cartels. This concept is spelled out in the Havana Charter which now governs international commodity arrangements under the United Nations.

Does that answer your question?

QUESTION: Pretty well. But it still seems to me that it would be difficult to get consumers and producers to sit together. I still don't quite see it.

MR. PEHRSON: It is difficult. But if we, as the largest consumer of tin, are shortsighted enough to say that our policy must be to get tin as cheaply as possible, then we fail to recognize the most fundamental problem in the industry. I have never found the tin buyers of the large consumers in this country too much concerned about price. They much prefer a stable price to a fluctuating one, and they are all willing to recognize that the tin-producing industry has to have a remunerative price in order to provide incentive for the exploration and the development of new resources. That is why I think there is a possibility for producers and consumers to come together if they will just understand the special problems of mineral development.

QUESTION: Mr. Pehrson, you mentioned that both the Paley Commission report and the Malone Committee report were in favor of additional research, but you said that in your own mind such research should be aimed at more ivory-tower stuff than just geophysical and geological surveys and research in the processing of these materials. If you don't mind, I would like to know what you mean by "ivory tower research" in minerals.

MR. PEHRSON: It is hard to define where ivory-tower research leaves off and applied research begins. I was impressed last spring by hearing Dean Dunn of Columbia in a talk to a business group explain

how much the Russians are getting ahead of us in science and technical education. He revealed that already in some fields of metallurgy and in several fields of science Russia is ahead of us. Applied mathematics is one. The Dean was making a plea to industry to give the universities an opportunity to subsidize brilliant young minds. That is what I am talking about as the ivory-tower approach.

I would like to see in Government, men with imagination and proper technical qualifications sitting aside speculating on the problems of 25, 50, 75 years hence. There has been too much tendency in Government in recent years--it has been forced on us by wars, mobilizations, and stockpiling programs--to be concerned with the production next month, next year, or even the next five years. The proper role of Government is in the submarginal field of research, the ivory-tower type of thinking--analyzing what problems will face us a couple of generations hence.

For example, at the present time I would like to see somebody working with a strictly scientific approach on the physical characteristics of minerals. Properties might be discovered that would permit development of new methods of locating deposits. There may be some research of this kind going on, but there isn't any sponsored by the Government so far as I know.

I would like to see somebody wondering about what we could do with the metal silicon if we could make it ductile. We all know that silicon is the most ornery customer there is. It seems to me that with the progress we are making now in handling metals, alloying them, and learning about their properties, somebody should start working on silicon, the most abundant metal in the earth's crust. We might find that it can be put to use.

Today the Bureau of Mines has a great deal of pride in its accomplishments in the field of titanium, tantalum, and zirconium. The results that are being attained today are the end products of a brainy chap in the Bureau of Mines who some years ago speculated on how presently unused resources could be put to use. He got the scientists in the bureau working on fundamentals, and we now have three new metals which seem to have very promising futures.

When we get to the point in research where we have demonstrated that a new metal has commercial possibilities, I think that is a good place for the Government to get out.

QUESTION: What do you think of the prospects of our manufacturers learning better reclamation methods on the junk pile, that is, reclaiming metals out of the scrap that now end up on the junk pile?

MR. PEHRSON: I have often said that the greatest conservational forces in this country today are the junk dealers and the secondary metal smelters. I think they are doing a wonderful job. Undoubtedly there are opportunities for better technology. I have an idea that we waste a lot of metal in drosses and other products that might be economically reclaimed.

But I don't visualize that sort of thing making a great contribution to our overall supply problem. I think that it is heavily dominated by economics, and that most everything that is practical to accomplish today from a dollar point of view is being done.

We might at some future date decide that we have to restrict the use of these critical metals in what I call frivolous uses, in order to preserve them for more serious uses. But I don't visualize that research in the field of secondary metals, particularly in the metallurgy of recovery processes, is going to make a large difference in our supply situation.

QUESTION: With regard to our stockpiling program, it appears to me that our present policy is to give first consideration to immediate procurement at the minimum level of those materials from whatever source. Is it your opinion that some consideration should be given to the domestic development of production; and that, if necessary, we should decelerate that procurement program and await production from purely domestic sources?

MR. PEHRSON: I think that all procurement under the new stockpiling policy, which announces a long-range objective, should be accelerated, and that we should forget whether we get material from domestic or foreign producers. We should get it wherever we can until the larger objective is fulfilled. Then we can turn to a policy of stimulating the production of domestic minerals and thus have an assured long-term industry that can be built up over a period of time.

It would be advantageous for Uncle Sam to swap gold for metals and minerals that we can put in the stockpile for future use. I don't believe in the idea of our superstockpile objectives being strictly for domestic producers--a subsidy device for them. It doesn't make sense to me.

QUESTION: Early in your lecture you spoke on the general subject of stimulation of commercial enterprise. You spoke of industrial representatives coming to Washington and having to interview bureaucrats who didn't have much to offer. Could you discuss that a little further? How would you administer that program without requiring to be assured that the money would be used wisely, requiring many of the same kind of reviews that you seem to criticize?

MR. PEHRSON: I had no intention of implying that there should be no review in the handing out of public money. God forbid that. But I think, in spite of all the reviews that we have in Washington, a lot of money has been foolishly spent.

What I would like to eliminate are these endless processes within bureaucracy that require review by statisticians, theoretical economists, lawyers, and God knows what. If we have a competent mining engineer, if it happens to be in the mineral field, go over the proposal to pass judgment on its feasibility--and we have lots of them in the Bureau of Mines just dying to do a job like that--and if you have some financial person look into the proposition from a banking aspect, that is enough. We have altogether too many reviews in Washington.

QUESTION: If I understood correctly what you said, generally you favor free enterprise in every direction for the domestic mining man; but, in certain things you feel we should restrict free enterprise in the direction of our national economic needs. I think you advocated that petroleum uses be restricted in order to encourage a certain amount of coal production, in order to force coal to take over parts of the market which are now being filled by petroleum and natural gas. If so, what kind of governmental regulation would be necessary to accomplish that?

MR. PEHRSON: Let me say right now that it is going to take a lot smarter brain than mine to devise how this is going to come about. All I can say is that I am primarily interested in the wise use of our national resources which are not replaceable; and that requires, it seems to me, that we slow up the frivolous use of petroleum and natural gas in order that we can have assurance that oil and gas are going to be available to us for those uses for which there is no satisfactory substitute at the present time.

That point of view, is anathema to the oil industry as it is to all who believe in free competitive private enterprise. And if there is any segment of our economy that has demonstrated the strength and aggressiveness of our free enterprise system, it is the petroleum industry.

Just how this can come to pass I wouldn't know, not having given any thought to the subject. But I have a notion that we ought to look into it. There are some groups in town presently exploring the field. Obviously some kind of arbitrary restraint is required. We do have economic restraints in this country, and I don't think that a reasonable limitation in a matter dealing with conservation is a serious challenge to our free enterprise system.

COLONEL CONNER: Mr. Pehrson, the college, including the geologists in the audience, wish to thank you for a very fine and comprehensive talk and a very fine discussion. You have done us a great courtesy.

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