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ECONOMIC POTENTIAL OF THE UNITED STATES FOR WAR

A lecture delivered by
Professor W. Y. Elliott
at the Naval War College
November 19, 1948

This is a second installment, but the President of the War College has suggested that I refresh your minds on the whole problem before emphasizing supply problems and organization.

On the Economic Potential of the United States for War, what I want to do first is to lay before you some problems that seem to me to “set” this problem itself in terms of the questions it involves. What do we mean by “economic potential” and what do we mean by “the United States for war”? I don’t mean to get into semantics. I do not think that would be very profitable. I propose to make a plain, common sense analysis of what you’re up against.

The main job I had to do in the first three and one half years of the last war (from 1940) was to concern myself with the strategic imports problem. I don’t think it is necessary to indicate the importance of that problem to you, but it obviously has the most direct bearing on the question about which we are talking at the moment. Economic potential for war can be studied in terms of the import program and the deficiency materials almost as well as from any other angle because you have to study the things that we have and our production potential as well as what we haven’t. When you have a deficiency in strength and when you know the processes through which these materials come, you understand what the “United States” and “war” really means. It means the

Professor Elliott is Professor of Government at Harvard University and was the wartime Vice Chairman of WPB. This is the second of two lectures by Professor Elliott on the subject of economic potential.

RESTRICTED

world. The potentialities of the United States have to draw on the world.

Now that is, unfortunately, a lesson that is not generally recognized in a great deal of top-level planning in Washington. The assumption is that the Navy is an old fashioned instrument of warfare which somehow is a little bit out-moded by the fact that you can fly over large areas of the world and deliver knock-out punches if you can get there, not "fustest with the mostest men", which was Bedford Forrest's formula, a fellow Tennessean's, but get there with something lethal in the way of a knock-out punch. But you have to get there also to mop up, even if you *can* deliver such a punch, and you have to get there to protect yourself, in the first instance, with the supplies for bases from which you can deliver these knock-out punches. Like a great many other problems which you study and are much more expert with than I profess to be, this is a primarily military aspect of our national strategy. I hope our top-planning is good because everything else depends on this estimate.

Just common sense thinking on this point would indicate that the protection of our sea-lanes is necessary to get in over 200 strategic materials. (260 were on our W. P. B. list at the end of the war). On the A. N. M. B. strategic and critical list today you have about fifty or sixty materials and you have another hundred that are doubtful and would soon become critical and strategic. Just take my word for it, they will all be there within six months of the time any war is fought, because wars always develop more shortages than anyone has foreseen.

The first proposition that I want to call to your attention, then, is that when we are talking about the United States at war, *we are talking about the United States drawing on any accessible parts of the world.* The places we can control in the world, the

sea lanes that are available to us, (to which I propose to return) the places that are not likely to be interdicted by communist activities (and that is a very real part of our equation from here on out) become critical to the success of stockpiling to prevent our being dependent on areas where we are likely to be interdicted from materials which we may desperately need. Our potential depends on control of sea-lanes and producing territories.

What about the rest of our own United States' economic potential at this time? Let us start off with an analysis of that and break it down into the three points that I have suggested to you: (1) our natural resources that we have to depend on for the entire raw material supply of this country (and that includes food-stuffs and all the agricultural production in a very definite way because we are going to have to feed other people as we always have); (2) our industrial capacity, and (3) our manpower. Those are the three basic factors, if I understand them, that enter into any economic picture of war potential. Industrial facilities and capacities, of course, are the things that get most of the attention—the things we spent most of our time wrestling with in the War Production Board, though without the other factors being in balance, they sometimes got out of balance. Industrial facilities could be useless without adequate transportation, raw materials, components, and manpower, in a proper balance. Sometimes production suffered very greatly even in the war in which we were protected the last time by the intervention of that Providence which seems to have a peculiar concern for us, along with the other objects of its traditional affection which I need not name.

No Slack in Our Present Peace Time Economy.

At the present moment we are absolutely at capacity in steel and are far behind requirements—five million tons at least. We are not able to meet our needs in the production of electrical energy,

RESTRICTED

(which is an absolutely critical factor, as you gentlemen all know, for all our war potential). We are short in the mining of every non-ferrous metal in the picture, and we need all the iron ore that we can lay our hands on. We are not at capacity in coal, but we are pretty close to it, and any slackening of that front would be serious. We *are* at capacity in metallurgical and by-products coke. We are desperately short of scrap for steel making purposes. Scrap is the biggest single limiting factor in steel production today, apart from strikes (which we hope will not be in the picture but may be if the inflationary spiral is not controlled).

If you take the three or four other lines that are absolutely vital to war, such as the production of specialized bottleneck items: gauges, compressors, valves, (the things that you gentlemen know held up the escort vessel program when we got into a very tight jam last time)—those things are pretty well within capacity.

We are behind in the oil country goods, which is the major factor in petroleum production today, so that you can't get 24 inch pipe orders on any mill until 1951. I mean that the existing orders are not going to take care of the production of petroleum in an adequate volume. It is a world picture I am talking about, which we are having to supply. Petroleum is domestically now just about within peacetime demand, with no reserve for 100 octane production and other products for war.

Now that is only *peacetime* economy. You are not taking any big slice out of that for defense today. You will next year (1949) take a bigger slice and with the lend-lease program for Europe, that is in my judgment quite certain to go into effect. I think the stage is set. You'll take a much bigger slice out in later years; but you won't take a "wartime" slice out of it, unless we have a war. So that when you are talking about war potential you have to squeeze it out of present civilian requirements, or find

additional facilities, (which in the main do not exist at this time) in order to carry a wartime load. Now that is exactly the cold factual situation that you are up against—no slack in the industrial economic potential for war requirements and none likely unless we hit a severe depression.

You haven't any factor in the 1948 situation that does not correspond in some way to the situation which we confronted in 1940, but there was slack in the production facilities then available. When I went down in May 1940 with Don Nelson, Bill Batt and Ed Stettinius and the rest of them, (and they were pretty much recruited from the Business Advisory Council, a group of people who had been working on this in one way or another for a long time) we had some slack, though we didn't have *enough* slack. Yet we faced the same general problem then that we have today. If you were going to increase steel facilities, for instance, adequate to get wartime production of steel up to the figures that we regarded as necessary, somewhere approaching 90 million tons, (and there were a lot of people who said that 100 million tons would be necessary, if we were to do the job) every ton you took out to increase steel capacity in 1940 wasn't getting the bait back until three years later, and you were taking it out of current production in the meantime. How much steel could we invest in a long run expansion? Could we squeeze it out, without hurting immediate rearmament needs?

Today we confront that same problem, only in a more exaggerated form, because steel capacity was then running at about three fourths capacity at the most, and we had some leeway to expand against existing capacity. We don't have that leeway of steel capacity today. We have furnaces that have been running until they are, in many instances, worn out and badly in need of replacement. Some of them are being replaced and steel production is

RESTRICTED

suffering somewhat in consequence. Expansion in steel is going on, but we won't list a 100 million ton figure at present rates before 1952.

There is, to sum this all up, a peculiar kind of handicap, from a wartime point of view, in our present full employment economy. Everybody is used to this high plateau of civilian consumption; plans are going ahead on that basis. We are not an easy economy to plan for war, even on a sensible basis of preparedness before the event. Now I hasten to add that that is not *all* a bad proposition because a lot of new industrial capacity is being put in which can be, with very little conversion, used for war time purposes out of this new peak civilian requirements load. You are dealing with an economy strained to its utmost with the E. C. A. program on its back, with increasing demands confronting you next year, *certainly* increasing demands for our own military requirements. There isn't any possible doubt that the outcome of this election did not affect that in any very serious way, although whether it would have been greater or less is a matter of speculation. In any case, we are committed to an increase in the arming of this country and we are, though not as yet *definitely* committed, almost *morally* committed to a rearming of considerable parts of western Europe and certainly China, if it remains in the picture. It looks as if enough of it had a chance of remaining there to require *some* rearming at any rate. This load will include a larger share for the recovery of Japan. We have been guilty of allowing the Japanese economy to remain relatively idle and almost useless for even its own recovery and a direct drain on us, much as we have handled the German economy up to quite recently. Both must be put to work or they too drain our economy instead of helping to rebuild the world on our side of the Iron Curtain.

Now I want merely to throw in a footnote at this stage, which I intend to develop later. Whether or not we have inflation

in this country within the next eighteen months, possibly within the next year, in steel products, including pipe lines, oil country goods, is very largely a matter of using available German production. We should be able to draw upon Germany, as we could with any kind of consistent and absolutely all-out effort, if we brushed aside the objection of the British to the competition being reestablished and if we retained in Germany the steel capacity that is there. There is sixteen million tons of annual steel capacity in the western zones which is, at present, producing at the rate of seven million tons of steel a year. Nobody would have given you five cents last year for the chances of its producing at a rate of more than six million tons by this time, at the outside limit. It's actually producing at above the seven million rate.

We have to get more Swedish iron ore in that picture, or iron ore in adequate quantities and adequate volumes from somewhere else. We have to do something more about German transportation. But if we were running a war we would do these things. That was precisely the kind of thing we *did* have to do during the last war, and that would be the biggest check to inflation that this country has faced. And gentlemen, inflation is the greatest danger of starving our military programs and our overseas objectives all across the board. Now am I wrong in that simple analysis? I don't think so. But I want to develop it for you to see whether I am.

On our own potential we are short at least five million tons (some say up to ten) of ingot steel to meet the total requirements that are going to be put on us by the combination of military programs, lend-lease included, the E. C. A., whatever we do for the rest of the world. The Commerce Department estimates run as high as seven million tons of basic steel, while the Interior Department estimates are quoted at the higher figure of

RESTRICTED

ten. This includes the commercial steel export for the world which we can't cut off without simply wrecking South America, etc. That steel capacity for quick use exists in Germany and nowhere else. There isn't the capacity for developing that steel making capacity in the U. S. A. under three years' time. Six million tons of German steel capacity are due for scraping. We agreed to do this under the pressure of the Russians, and with some backing of the British who didn't like this competition, and because the French thought at the time of Potsdam—and until recently that they ought to control the Ruhr and destroy or take over that steel-making capacity. Now those are all factors that need to be dealt with but I can't get into them too extensively here.

Transportation Equipment and Oil Country Goods as Shortage Items

Now second is transportation equipment, which is the limiting factor in the second major inflationary item with which we are confronted namely; the development of minerals all over the world, transportation equipment, oil country and mining equipment. That's steel. If you have the steel you have the capacity in most places, and you have German capacity, much of which is being disassembled at this good moment and shipped, some of it behind "the Iron Curtain". It is an incredible thing to be shipping big pipe-making equipment even to Tito, and certainly to ship it to Czechoslovakia, Poland or Rumania. We have stopped shipping it, for the time being, to Russia because of the counter-blockade to Berlin. But we are always apparently willing to do a deal along those lines and go on with it at some time when things get a little bit tougher. It is always held out as a bait, twenty-five per cent of reparations equipment from the Western zones of Germany is still earmarked for shipment to Russia today in the I. A. R. A. allocations of this stuff in Germany. That apparently cannot be touched, even though Congress has passed a law which says that the E. C. A. should get a new deal on this whole business and should use that steel

capacity for the recovery of all of Europe. Since we were putting new money into Western Europe that never was contemplated when the reparations were originally settled, we should have a new settlement of the whole problem to use that money where it would be used most quickly and effectively.

Lend-Lease as Military Insurance for our Huge Stake in Europe.

Now obviously we do not want to build up that capacity for armament purposes before there are fifty European divisions, British and American divisions, able to stop the Russian armies from overrunning Europe. It would be a tragic folly if we were to build up heavy armaments in France in response to de Gaulle's pressures. To build them up in England makes more sense, but to build them up in France makes no sense whatever. Their entire steel production, their entire recovery program, ought to be geared into recovery items in *light* arms. The mass production of heavy armament ought to be entirely restricted to the United States until you have such protection that you know that you are not delivering over the entire arms industry to Russia.

I suggest to you gentlemen, if you have anything to do with these staff conversations, get that thinking into the picture, or at least think about it yourself to see whether it belongs in the picture, because the pressures are all going to be to go through the same old pattern of having uncoordinated equipment. I like the G. P. F.; it's a darn fine gun, and it was in 1917, but it is not the kind of proposition into which to turn steel with the French methods of production. This is particularly true until you are sure that it won't be turned against you. Tanks and even cruisers and Naval arms make no sense whatever in terms of building that kind of thing up at the price of "recovery" steel today, inside Europe. Please think that one over, in view of the tightness of steel at the present time! Use German steel for European recovery; keep the heavy arma-

RESTRICTED

ments for Europe in this country mainly, with Britain perhaps providing her own on a coordinated basis. Other commodities than steel and minerals are easing.

If I have emphasized steel, it is only because steel is the key-index to war production. We found that out in the control material plans that Ferd Eberstadt (for whom I'll say a good word as a boss, because he was my boss), had the guts to ram down the throats of many reluctant people in the war. It's the index; everything gears into steel production and that's the reason I have been emphasizing it. But there are nine other items at which, in this country, we are chock-a-block at full capacity.

We have eased off in food production, that is no longer an inflationary item. Can we expect the climatic cycle not being repeated indefinitely? We have had eight good crop years on end. I don't know, Joseph's interpretation of Pharaoh's dream may not be the right one, "Seven lean years and seven fat years", you remember the Bible. (I hope the Navy hasn't stopped studying the Bible because you've got to seek comfort somewhere these days!) But we are due for a drought year pretty soon. We have had the most magnificent and incredible miracle of crop production and climatic luck in the world, and so we can't count on that indefinitely. But, thank heavens, for the moment, food is on the decline as an inflationary item and certainly you are as concerned with it as I, a professor. That item in the family budget is still tough; it is still bad, but not a critical item. Still we might do well to keep our elevators reasonably full as Pharaoh did, against emergencies. Crop failures still occur and food is a mighty weapon in war.

Textiles are out of the inflationary woods. Textile production is now sagging for lack of demand. The day of six and seven dollar shirts, I venture to say, may be over. You can go

through consumer durable goods, too, and things of that order (except where they are closely related to steel production) and the consumers non-durable goods, the kind of goods like automobiles and things of that sort and, by and large, the market is getting along towards a saturation point. So you are really out of the woods in most of these items, but you are *not* in these basic factors that effect the elements of munition supply and war production, which are most important—the ones I named beginning with steel, electricity, petroleum, the minerals, building materials, etc.

Now what does that spell? It spells, if I understand it, two things: first, that in order to get the potential for war production geared up, we have to gear it up *now!* We are looking right down the possibility of a war at any moment. There is, however a most encouraging thing about it to me. I was a civilian requirements planner and fought the last year of the war with *Vogue* and *Harper's Bazaar* and *Vanity Fair* to keep the dresses short, not because I was interested in the least in admiring the legs of the ladies, necessarily, but because I had to save cloth, so that you gentlemen could have enough uniforms and all the other things you wanted, including enough sleeping bags to sleep everybody in the Army double, from here to kingdom come. I fought that battle both ways—to cut sleeping bags down and keep dresses up. We *did* keep the dresses short here. When Moscow adopted the new look the other day I breathed a sigh of relief. I don't believe that Vossneshensky, the old Politbouro planner there, would have let them put the skirts down until he thought there wasn't much danger of an immediate all-out war. He is a pretty careful kind of planner; his neck depends on it.

I suspect that is a very good sign that the cold war is going to be cold for a while—that taken along with a lot of other things. Although the Soviets aren't set for it today, they could overrun Europe any time they wanted to, and the temptation to do it under conditions of stress, might force them to do it even when

RESTRICTED

they don't *plan* to do it. That's the tragedy of it. So, looking down the guns that way, we as a nation, living in fat and security and comfort and all of that kind of thing, just can't bring ourselves to take the necessary steps to plan for such a struggle as may burst upon us. We take comfort in the new look coming from Moscow and other hopeful omens. Particularly unless we can mobilize the resources of these occupied countries, Germany and Japan, we still have a great inflationary strain on our system that is almost unbearable, and can be politically dangerous. We are asked to bear too much. "The weary Titan", as Joseph Chamberlain once said about the British Empire way back in 1902 when it was far from being true perhaps but he was predicting a true future, "The weary Titan staggers under the too vast load often his fate." It is we who now play the Atlas holding up the world. We must keep our people willing to support this load, and the only way I can see to do it is to mobilize the resources of other people for recovery purposes in Europe, while keeping the production of the things that are absolutely essential *now* in this country where we can control and coordinate their production and where we can control the arms and munition supply.

I needn't allude to the South American arms program, which needs to be restudied in the light of this total global picture. The uses of that program I think are too apparent to need comment. When you control the sources, you control a great many other things too. It is exceedingly important, gentlemen, it seems to me, that we should think in terms which are, after all, entirely legitimate terms of national interest to the people who are going to bear the brunt of it in the long run, so far as the sacrifices are concerned.

Now I hasten to add that the Europeans, on their part, have got quite a legitimate grievance if we begin to talk about abandoning them, and if any misleading talk comes to them that we

may retire behind the Pyrenees or something of that sort. That is not a good line of doctrine, particularly if we consider psychological aspects of the cold war. Let us talk about fifty divisions, (their divisions mostly), equipped and put into the field so that the European people will not have the feeling which they legitimately do have today—that they may be the first to have heads roll. Until we can coordinate ourselves with an Atlantic agreement, backed by actual divisions along the lines presently being studied, they will still have that feeling. So everything I'm saying is predicated, from my point of view, on the fact that we all can, with certainty and speed, stop the Russians in their "irresistible power" that they have on a purely relative basis today. I think it can be done, but you are better judges of that than I am, I leave it to you. Perhaps the whole psychology of Europe could be changed by fifty reliable, high powered, divisions and plenty of tactical aircraft (not just long range strategic bombing) if you have got them in a position where they can be used. The trick is to get the psychology that will make these divisions really reliable.

Now with that assumption, the second line of argument which I am going to lay down is that we must be prepared at the outset in the United States, to take the most drastic measures with our economy that anybody has ever contemplated. And I am speaking to you as an Ex-Vice Chairman of the W. P. B. for civilian requirements, the Director of the Office of Civilian Requirements. What we did last time would be completely inadequate, because at the outset of any war today we would have to face two things that did not exist in this last war.

More Drastic Cuts in the Civilian Economy would be Needed for a Future War.

Now let me start off by saying this, so that I may make clear to you that I am not trying to sell out the civilian economy

RESTRICTED

which I really value and whose importance I think the military often do not understand. Certainly Lucius Clay didn't always understand it last time. Others in the armed services had a very imperfect understanding of it, if I may put it that way. You can't stop the civilian population from rolling around in automobiles completely, without stopping men from going to work in war plants. Our transportation system is not like that of some other countries, geared to bicycles. We *do* depend on the automobile to get around, and it is very important that we should have an enforceable provision for legitimate users of gasoline to get it. But it's going to have to cut a lot deeper and a lot farther, if we are going to support a war effort again, than we ever thought about last time.

Why? Not only are we at peak of consumption today in many lines. In special areas we have added to our national burden. We've turned everybody to the use of petroleum for fuel. I just installed a new oil heater in the gardener's house over next door. I turned to oil because it was easier. It's expensive but it's easier. If I'm going to put some of my family over there or rent it to somebody, they will want an oil heater. That's a very wasteful use of a very vital natural resource. A country that was properly run, on a long-time interest, wouldn't permit that. That's right. It really wouldn't permit the use of petroleum resources for immobile fuel purposes where coal was adequate. But *we* do and we are all geared up to it, and it would wreck a large part of the whole economy if you pulled it out. Petroleum is just one of those things that's right up to the notch today, or just about. Not only fuel oil but distillates and crudes.

Dangers Through Sabotage.

But there is a more important danger—loss of production by sabotage. What would happen if we got the additional factor

of sabotage on a wide scale, as we will certainly get in the only future war we are likely to have to fight. When I set up the lecture on civilian requirements which I made at the Industrial War College, they asked me to figure out what the civilian requirements ought to be next time, in fifty minutes of an off-hand talk at the college. Out of the richness of my experience, would it be enough to go back to the 1936 averages the way we used to do, and say that we could squeeze along that way with rationing? No, that won't do at all! You must have three alternative plans to confront a war today in terms of the damage that's done, the cutting off of natural resources, and the levels at which you have to cut civilian requirements.

One of them is the "soft" plan, which would probably never go into effect, but for purposes of propaganda you might keep it on the books. That would be a plan like last time. The minute war broke out, the minute you were confronted with a war tomorrow sometime, you'd have to go into at least a second plan, which would be the "moderate" plan, though a tough plan it would be too. We should have to cut, in my judgment, twenty-five to forty per cent below anything we saw last time, all across the board, and maybe farther than that depending on whether you got hold of the schnorkel submarine warfare quickly. I don't know how you feel about that, but the gentlemen who do scientific sound ranging stuff up at Harvard don't seem so optimistic about it. After your adventures up in Newfoundland recently maybe there is some little doubt in the minds of other people. The second plan would cut back about where Britain was in 1943.

I would think that you should count on really severe sabotage and really heavy losses as the basis for a third plan, so that you really would be geared into something where your planning would be adequate to meet potential disaster. I can't see how

RESTRICTED

strategic planning today can be otherwise than in terms of alternative plans with depth of degree. That sort of cut would leave the civilian economy with little except its past fat and repair parts to live on.

Now if that is correct about the war potential of the United States, what looks like a very healthy situation from the point of the highest volume of steel production that we have ever achieved in peacetime, of very elaborate industrial mechanism, some plants still on ice from the last war that we could turn back to for munitions production and so on, is far from being a guarantee of adequacy.

How Much of the World do we Carry on our Backs? With what Help?

Let me ask you what you mean when you say "the United States at War?" What kind of war? How much of the world do we support by our effort? That will affect the problems I haven't spoken about yet. Why today we have four months' manganese in this country. Four months' manganese is hardly an industrial stock for operating purposes. Industry *never* got below about a year's operating stock, except in a disastrous time in World War I when we nearly ran out. And if we ever ran below fifteen months in the last war we got worried, terribly worried. So we just didn't do it as a rule. Even when we were tightest, we found bottoms from somewhere (lucky they were going out to those areas anyhow) to load manganese from India. There are 400,000 tons of manganese above ground in India waiting to be moved today. The Indian government is apparently willing to move it if we have the steel to swap for manganese. It looks as though we might do it if the State Department can make up its mind that this is the kind of thing that is respectable for a sovereign government to do. I don't know why we shouldn't, and unless we do, we are not going to get that manganese.

RESTRICTED

It is the same kind of deal we have for Takorati battery grade ore; I don't think that the American interests concerned are quite playing ball with us there. They may need more help, but they don't show great alacrity to increase production.

The E. C. A. doesn't seem to be moving in these areas adequately and fast enough. They are not taking into account these long range development plans. They are not allocating funds to the colonies ear-marked for colonial development. They haven't brought in Southern Rhodesia in the bilateral agreements. As far as I can make out little has been done about the car supply to get the chrome out of Rhodesia, and Rhodesia hasn't even acceded to the agreements that are part of the E. C. A. program. The British say its a self-governing dominion now. Whenever they want it to be a self-governing dominion, it is one too, but when they *don't*, they run it. Legally it is still not self-governing. The car supply there is absolutely vital and the British have at last, bless their souls, put a good railroad manager down there. They are beginning to move, but in the meantime there are hundreds of thousands of tons of fine chrome backed up for the lack of railroad cars—bogie wagons and agreements on the part of Portugal to use Beira more efficiently. We used to argue bogie wagons during the war, but when they had to have bogie wagons we got them for them.

Why not use our Bargaining Cards?

The port of Beira needs fixing up some. You'd better get interested in that one. You may have some work to do there, if you are going to get this stuff out. Lourenco Marques may bear some attention too, and it's one of those deals in which you'd think we would be able to have some bargaining power. We are going to have to learn to use our whole bargaining weight with the E. C. A. in one way or another. The Portuguese don't take many grants or loans, but they are beneficiaries. They are taking short materials

RESTRICTED

that require export licenses from this country and it looks as though we could find some way to reason with them.

If the United States is going to be built up for the needed war potential we must take steps of this character to increase mineral supplies in time. The State Department says, "We cannot understand why Russia doesn't cut us off of manganese today." Well I understand that, I think. It is very much to the advantage of Russia to have us dependent on them for twenty per cent of our manganese, and twenty-five per cent or more for metallurgical chrome, isn't it? If you could get this country dependent for its industrial structure to that degree on Russia, wouldn't you think that would be a sizeable advantage from the Kremlin's point of view? I would. In other words we didn't need a ton of that stuff from them to run the biggest war in history and supply them with eleven billion dollars worth of lend-lease during the war and a lot after. Today we are in the incredible position, in our chief basic materials, of depending on Russia to that degree, and at a growing rate. It isn't necessary! The slightest bit of drive to clean these things up would see to it that we got the bogie wagons into Rhodesia in return for additional and speeded up deliveries.

It is possible to deal with people on that basis. It *has* been done before, and it can be done *again*. The E. C. A. has the greatest persuader in the world if they are prepared to use it: funds of enormous proportions to go on colonial development. But if we give them as unconditioned grants to the colonial powers of course we won't get stockpiles from added production.

Useful Hints on Mobilizing Manpower from British Experience.

I'm going to pass over man power very briefly. I said some things about it in a lecture at the Industrial War College and I don't want to repeat those here. It's quite clear that no kind of manpower handling like that of the last war would fit the all-out,

full employment, situation that we confront today. The British handled that problem under conditions of much greater severity and strain, and bless their souls, they showed they could take it. They did an awfully good job; we can learn a great deal from them. I suggest that we should study their methods. One of the smart things they did was to put the man who is running their foreign policy today, Mr. Bevin, in charge of running their labor and manpower problems for a considerable part of the war, and a labor man was in there even when Bevin wasn't. In other words, British labor had a feeling that they were doing it through somebody who understood *their* problems and who was *their* man, but they were all out for saving England and they were prepared to do it.

Now it would manifestly be impossible today to rely upon merely the incentives of higher wages in war industries, or something of that character, to deal with the manpower problem. I dare say at this good moment for the period of cold war, we could rely upon companies turning over to the government for their use, men from these companies, on quite the generous basis they did even in the last war. There must be a safeguarding of the jobs for people on the higher levels in companies, just as much as there was the safeguarding of G. I. jobs. Otherwise we are going to find it very difficult to get top men who are free of strings. There must be an increase in salaries paid to top-level executives in the government if you don't want to have just "dollar a year" men. I think the latter behaved, in the main, with complete integrity. I have absolute confidence in the ones that I knew in my own shop. But it's an awkward position. Sometimes they had to lean over backward against their own companies, because they were exposed to the feeling that they were still employees of the company from whom they were drawing their pay. That didn't always improve their future prospects. Many of them looked for other jobs, after the war.

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Manpower demands an approach in terms of a total mobilization. If we are "all-out" next time, that may be an entirely different kind of proposition from what we have been looking for. And I think, there too, the plans ought to be made on three levels. One would be a MacNutt manpower program if I may call it that. MacNutt did an honest job, as best he could, with the kind of manpower set-up that he had and under the political directives that he was given. I think you have to say that. He is a good politician and he did an honest job, the best he could. But that isn't going to be the kind of job that you can do and get by with next time. So that the war potential depends upon the setting up of plans now.

Strategy of War Affects all Planning and use of Potential.

But can they be set up now for this drastic kind of war? Sometimes you must be baffled by political limits to your own military planning. I'm not going to try to outline the war plans you people make, but pretty clearly any kind of war is going to be an "all-out" war, even if it has the most limited objectives in the beginning, and even if you use your resources according to the maxim of Bedford Forrest (as I hope you will) and try to knock out the oil supply of the Russians (which would be the sensible, smart thing to do). If we had done that to the Nazis earlier, instead of knocking out ball-bearings and knocking ourselves out, it would have been much better. As soon as you can cripple an army from moving, they become a horde and it doesn't take many divisions to stop a horde. It seems simple, and all things ought to be reduced to simplicity if they are capable of it. To interdict oil would seem reasonable, but you have got to have an "all-out" effort to do *that*.

At the present time the 70 Air Group Plan doesn't make any sense whatever without so many more thousand transport planes in it than we seem to be thinking about. They would just be floundering if you were just going to use them as tactical air-

RESTRICTED

craft even for strategic bombing, if you were going to depend on that. Just think of the logistics of it, and suppose you got half of what you've got in The Berlin Airlift knocked out tomorrow! Where would your air support be then? I'm talking about C-54's and C-47's, the flying box-cars, and the work horses that you must have to move people around under modern conditions. The balancing of an air force has not been thought out or acted on. We really have lost everything if we can't move cargoes by sea, but there may come a time when we will want to move some stuff fast by air, and a lot of it. We need to have the cargo planes for that, no question about that, but the great work horse of the fleet and the merchant marine is the thing that keeps any kind of war going, and its bound to continue to do so.

I have kept stressing, "What kind of War?" Are we going to repeat the errors that every people make in history? I don't think it's limited to democracies. Dr. Berrening, the former Chancellor of Germany, tells me that it was a favorite characteristic of the German General Staff too (which was supposed to be a pretty good one) of fighting the last war, if not the one before last. You are lucky if you just fight the last war. I don't mean that wars change completely; they don't. The basic characteristics are always pretty much the same, and no nonsense about that. The weapons and fire power and so on must be there.

Possibility of an Anti-Schnorkel "Manhattan Project Approach".

But we have two or three propositions that surely are staring us in the face in any long showdown with Russia. To get on top of the schnorkel submarine, may be worth a Manhattan Project. Maybe it ought to be treated that way because there is nothing really more important to our total defense and our sustaining war potential, I would think, than this. If you can't deliver troops to those areas, what good does it do for you to plan an operation? If you can't support them by supplies, can you depend upon anything?

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Now you may have all the answers to that and I may be just an alarmist, but I should think the proposition stands pretty much at top priority. It can be licked if we prepare to go into it, just as we did the atomic bomb, with a real concentration of effort and money no object. And it had better *not* be any object, because all these other things *depend* on that. The E. C. A. is not worth a nickel without that; it's a complete waste. If we are cut off from Europe, the E. C. A. is just complete nonsense.

I would think that guided missiles have a part in this far more important than strategic bombing, if I understand the problem. I used to watch the Air Force put up a lot of planes and come back, when the jets were operating, with quite a lot of holes knocked in them. Now if the Germans had had enough jets and plenty of gas it would have been awful. I don't know how many atomic bombs one would want to trust to long range bombing under those conditions. You may—that is a military proposition. But guided missiles with atomic warheads, so far, can only be delivered from limited distances. They are still in a highly experimental stage, as we all know. We had better get that range extended and the accuracy and the other things increased at all costs. To be able to deliver the atomic bomb and to know that it is not going to be turned on you, is just as important as *having* the atomic bomb.

I would think that kind of war is the thing to talk about and therefore I'm suggesting that the concentration of industrial potentials in this area and the kind of raw materials that go into these things are the most important part of pre-planning a war. Scientific effort today must be the number one factor in our war potential.

Industrial pre-planning for changed specifications and substitution can also change greatly the problem of economic potential. Pilot plants, for the experimental increasing of production of

those things that are absolutely necessary for a new kind of war and an old kind of war, should be a part of pre-planning. Unless they are undertaken by government or through subsidies, commercial ventures are not likely to explore them adequately. If we had had the lime, soda, sinter process worked out, and, in a position to put in at least a blueprint stage for producing alumina, we could have used run of the mine Arkansas bauxite very much sooner. We would have been ready for it at a time when we could have changed over without knocking the escort vessels out as we did. We lost so many ships going to the Guianas for bauxite that we finally had to do it. I think that kind of substitution process (study and pilot plant phase) is part of the planning of war potential now. Pilot plants and changed specifications to domestically available reserves or substitutes may save waste effort in stockpiling if the plans are far enough advanced to operate quickly.

Now let me wind up by asking you this question. We are going to have to supply other people to some degree, and nobody can estimate the magnitude of that burden. It will depend on time schedules. Today we would have to supply very few after a limited time, except with guerrilla weapons. How long could Japan, e. g. be held today? The Lend-Lease program would have some significance for Europe. In any case we are certainly going to have to supply other people to keep them going in some parts of any war. South America will always be a burden, we can't neglect that in our calculations. It has to have exports from this country if we are to get imports in return.

Organizational Problems.

How are we geared up to perform all this organization of the economy of the United States for its maximum potentialities today? There ought to be in being, ready to work with, a series

RESTRICTED

of directives on the books and ready to put out tomorrow, that have been very carefully studied. A reserve corps of people already appointed to jobs should be available to staff the necessary agencies. The Army-Navy Munitions Board has got to be strengthened in a way that it never has been strengthened before. It is essential to professionalize some elements of the staff work of the Army and Navy.

I know the difficulty that presents. I know that a fighting officer must be a fighting officer and God forbid that we should take any of the gimp out of any of them. That quality paid off. But we must also have people who understand the kind of jobs that you are going to be called on to do to run a very large part of the economy. You have been doing it now because nobody would do it except somebody in uniform that could be ordered to do it. People kick about being run by people in uniform, but the plain fact is that men in uniform are public slaves more than public servants. They will take low pay and they will take orders to do work that you can't get anybody else to do. You had four Secretaries of State until you got a fellow who was used to being a soldier and who took orders; and even he is a little weary of it now. So it isn't an invasion of power by the military; it's falling back on them because they are the one group of people in the country who have been trained through a sense of national duty not to ask individualistic questions such as "What do I get out of it?" They just try to go on and try to do a job. Thank God there are such people in a democratic society though they take a rough beating in times of peace.

"In times of peace prepare for war." You are going to have to have more expertly trained staff people who spend more time on a job. I welcome the staff colleges for that reason because obviously they are beginning to take this job more seriously all the way round. But you must go farther than that. You really must

RESTRICTED

get people who understand these technical and production problems in a way that the Army-Navy Munitions Board *never* understands.

The strategic materials list that we started out the last war with was something somebody ought to be shot for. It was because the poor guys barely could get acquainted with the nature of the problem before they were gone. Here today and gone tomorrow! You can't expect them to learn that sort of job in that way. But somewhere you must have a permanent cadre of people under your control, as military people, who do understand these problems and who can get in and protect themselves from being kicked around by "experts" and so-called "industrialists" or "specialists". I think you had better take that seriously.

Need for More Specialization on Career Staff Work.

With regard to the specialization of staff work, I don't offer the German G. H. Q. as a model, but it did have certain real advantages. The amount of time spent in staff work, comparatively speaking, by application to it as a career, may have something to be said for it at times like this. The functional development of our society is one in which I'm afraid we don't have the liberty of all being amateurs at everything, and you must know your stuff in these things in order to deal with the problem realistically. The training of your people in industry would be an admirable thing. I know that is being done somewhat, but it ought to be done more.

Fortunately in this country we can count on patriotism in war, which does mean that a democracy fights a war pretty well, I think, on the test.

We didn't do badly last time. We didn't have to deal with any real fifth column or serious sabotage, which we inevitably will

RESTRICTED

in this war. The screening of personnel in war plants today is a serious business! You know the Russians are planting men and women throughout our whole system—often carefully cut off from Red contacts, and we aren't taking that at all seriously enough. We would have to go into the next show with the certainty that we were riddled with enemy agents, and we would have to take very stupid measures, probably wholesale measures of cleaning up everybody who was thought to be a communist or associated with them, very unjust measures, because we had failed to take the adequate measures in time.

Now democracy has to depend on a great many things that it is very difficult for a democracy to produce, but it does have the amazing strength that every man is able, in some measure, to continue to press for the thing he believes in, even if he's in a uniform. He is less free there, we know that. But in the course of analyzing your problems, if you can set them in some such light as the one I have been talking about, at least I beg you to take into consideration some of the measures that have occurred to me this morning to be real problems for war planning. To solve them demands a level of devotion and intelligence and being above ourselves, all of us in the future to meet the challenge that we are faced with in our world for the leadership of the world. Dare I use the word "nobility" of spirit? I do. That is what we Americans must develop and there is no place more fitting for it than in the Armed Services which are going to have to bear the brunt of it and which have had that tradition, thank God, throughout our history.