INTRODUCTION TO ECONOMIC MOBILIZATION

23 August 1955

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23 August 1955

COLONEL WALSH: General Hollis, gentlemen of the class of 1956:

You were welcomed and oriented last Friday by the Commandant and the Deputy Commandants, and yesterday and this morning you have launched into the lecture series which comprises a major element in this year's course.

As the year goes on, you will see it is customary for the Branch Chief responsible for a unit of instruction to say a few words to you about that unit, so that you and the faculty will have a common understanding of our mutual course objective.

At the risk of repeating what is said in the curriculum book in the Orientation Unit, we will try to bridge the gap between the operational assignments from which you have come and the academic approach to a study of economic mobilization which is your present mission. A second objective of the unit is to lay a foundation for the more detailed studies of economic mobilization that you will experience during the coming ten months.

Now, turning our attention to our area of study, first we are going to hear some general lectures dealing with the subjects of public administration and the history of economic mobilization. Then there will be a short (2 week) refresher course on economics. Experience has taught us that a background in economics is important, so that you may get the most benefit from the lectures that you will hear as the course progresses. The third and final part of the Orientation Unit will concern the subject of how to handle people--management and leadership. We will spend one week on that.

How is this to be done? As you have experienced already, we invite experts to come here--visiting lecturers and seminarists. We tell lecturers what to cover. But by virtue of the fact that the expert who lectures today has not heard the man who spoke to you yesterday, there is a certain inevitable lack of continuity.

For instance, yesterday Secretary Dulles talked about the world situation. He said, as I read him, that United States policies were responsible for the present favorable change in the world situation, and had been successful over contrary Russian policies. Our second speaker, Mr. Leo Cherne, on the contrary, said we have been sold a bill of goods by the Russians. It is up to you to make up your own minds!

The resident faculty plan and administer the course. I would like now to introduce to you the people in the Mobilization Branch who are responsible for the planning and administration.

First I would like to introduce Captain Carl Mott, U. S. Navy. Carl has been in the Mobilization Branch for the past year, and he is currently responsible for the executive and administrative work that I hope will make our unit go smoothly.

Next I would like to introduce "Nick" Niklason--in the right balcony. Mr. Niklason is an industrial consultant. He has had extensive experience in business and government, and has been on the administrative firing line in the area of economic mobilization during World War II. I mean he held operational jobs in war mobilization agencies. He has been with the ICAF faculty since World War II.

In the center balcony we have Colonel Dick Barrett, who has had business and educational experience and is now a Colonel in the Air Force. Dick and I were students here together two years ago in 1954, and we were together in another branch of the College faculty last year. He and I joined Carl Mott in this Branch to be sort of a living example of unification. We thus insure balanced Army, Navy, and Air Force views in planning our parts of the curriculum.

Now, I introduce to you Dr. Louis Hunter. As you are aware, he will be our lecturer for today. He is an economic historian and a teacher; you are going to hear a lot from him during this course. He is going to give us three lectures on the general history of United States experience in economic mobilization.

I would be remiss if I didn't mention Dr. Andy Kress. Andy doesn't hold down a desk in our branch, but belongs to the Procurement Branch. However, he is the economist on our faculty; so he does plan and administer the economic portion of this Orientation Unit.

And last, but certainly not least, I introduce Mrs. Ann Forbes, the Secretary of the Mobilization Unit. She accomplishes in good fashion the difficult job of typing and filing for the six masters whom I previously introduced. She will arrange the luncheons to which many of you, as students, will be invited during this unit of the course.

Now, I should like to spend a moment on the time distribution in the unit. We are going to spend the next four weeks on it. For the balance of this week we will attend Industrial College-sponsored lectures on public administration of our government today and on the history of economic mobilization. On Thursday and Friday afternoons of this week we will inaugurate a series of economic discussion groups, which will continue for the following two weeks. They will be supplemented by lectures on each morning during those two weeks.

During that three-week period that I have mentioned, we will also try to capture the spirit of the world today by going to National War College lectures, the first period each morning. Those lectures will deal with the current international situation facing the United States. As a matter of fact, the theme for this period in their catalog is the phrase "the world today."

The three-week period discussed will be followed by one week on the on the subject "Executive Development," which will concern the handling of people--interpersonal relationships.

Thus you see that the material we are going to present is general in nature, but is designed to give you a foundation for more detailed study of economic mobilization in the following units of the course.

Concerning that phrase, "economic mobilization," what it means to me is the organization and management of the United States--its people, its resources, and its economy--for a future war.

The Mobilization Branch is presenting this inaugural unit. We will also be responsible for the final unit of the course. As you study the subject of economic mobilization throughout the year, I want to advise you that it will be in anticipation of feeding back to us your thoughts about the problems in this area that face President Eisenhower, the National Security Council, and the Office of Defense Mobilization.

How should the United States plan to mobilize its economy for war? We will ask you to tell us the answer to that question (or some aspect of it) in the final unit of the course.

I would like to say a word or two about the question periods. The phrase "academic freedom" has been used on this platform. At least two dimensions have been put on it. One dimension has been the freedom of a speaker to come here and say freely what is on his mind, without fear that it will be repeated and come back to haunt him in the public press or otherwise.

The second dimension that has been put on it is your freedom, as in the case of Secretary Dulles and Mr. Leo Cherne, to accept or reject what the speakers have to say--you make up your own minds. Often what various speakers say does not lead to the same, or even similar conclusions, especially in controversial subject areas.

But the most important aspect of the phrase--and the reason why I bring it up at all--is that we would like to encourage you to develop a climate where the minority opinion, or the unpopular opinion, has a right to feel free to express itself to this student body--and to gain a respectful hearing. It is important that that be done, so that the fellow who has a question will spout it off. This attitude should obtain in your discussion groups as well as in this auditorium.

This matter is also important in this regard--that you see and study a question as a whole. If one point of view is neglected, it might be that a distorted impression is presented. It could be quite a mistake to leave one aspect uncovered, In the past the Industrial College sometimes has been criticized by students in that it did not take maximum advantage of the experience and opinions that reside in the student body itself. So I urge you to realize that you have a responsibility to one another under the theme "academic freedom," to bring your ideas and this valuable experience to the study of economic mobilization.

Well--the subject of today's lecture is "An Introduction to Economic Mobilization." Our speaker, as I have mentioned, is Dr. Louis Hunter of the resident faculty. He has devoted a great deal of time and research to this subject, and is an authority in the field. As you have noted, he is the author of one of the monographs which are on your essential reading list.

I think it is time to effect that introduction; so, without further ado--Dr. Louis Hunter.

DR. HUNTER: Thank you, Jim. General Hollis, Colonel Baird, gentlemen:

This morning I take up the first of two introductory lectures on the subject of our course, which is Economic Mobilization. This first talk is called "An Introduction to Economic Mobilization." Actually, both of these talks, as you will see, are introductory in character.

Now, to introduce is to lead into. That is all we are trying to do, really, in the whole of this Orientation Unit. We are not trying to give you a condensation or digest of the course in advance, but we do want to give you some notion at the outset of the course of what economic mobilization is all about--some conception of its significance and of its character--some conception of its relation to military operations.

So this morning I want to discuss with you some of the major characteristics, problems and conditions of economic mobilization. But, while I will, in the course of this discussion, give a considerable amount of explanatory detail, this detail is not important in itself. I would like to have each of you carry away from this room a few main points--a few big ideas about economic mobilization. If you do, the lecture will have been reasonably successful. The details are useful only to the extent that they help to get the main points across.

Much of what I have to say this morning will be very familiar to you. You have all lived through at least one global war and, more recently, a limited war in Korea. We have all lived with, we have all been a part, of economic mobilization.

Now, I shall be dealing in the main with elementary things. But the elements of any subject are the foundation on which we must build. Before considering the more specialized aspects of any subject, it is very important to have the elements pretty clearly in mind.

All right, then: let's get down to business. On the easel card I have listed the six topics under which I propose to consider

this introductory analysis of our subject. Let's start with Roman I: Economic Mobilization and Logistics.

I am going to begin with a definition of economic mobilization which is a little more formal than that which Jim gave to you. If you want a really complicated one, turn to the "Dictionary of the United States Military Terms for Joint Usage," and you will get a definition as long as your arm.

I will start out with this definition, and then spend the rest of the period trying to explain just what the definition means. Economic Mobilization is simply the process by which all the productive resources of the economy are organized and directed in support of the Armed Forces for defense or war.

Now, the science and conduct of warfare break down into three major divisions: Strategy, Tactics, and Logistics. These divisions can be likened to the supports of a three-legged stool, each one of which is essential to the functioning of the whole.

Strategy determines the overall military objectives and plans for the conduct of war. It supports the political objectives or goals of the Nation.

Tactics has to do with the direction and conduct of specific military operations--combat operations. Tactics, in other words, are the methods for supporting and attaining the strategic objectives.

Logistics, the third leg of the stool, has to do with providing the supply base, the material ways and means, essential to the successful conduct of tactical operations.

All this is extremely elementary, of course, but essential.

Let's stop a moment and take a look at this term, LOGISTICS. In recent years this term has been given a much broader and a much more inclusive interpretation than has been customary in the past.

The traditional, and narrow, concept of logistics you will find in Webster. He defines logistics as "the branch of the military art which embraces the details of the transport, quartering, and supply of troops in military operations."

Now, in this traditional, this older, concept of logistics, which goes back for centuries, the production, and even the procurement, of military supplies was customarily ignored or taken for granted. Logistics was pretty much limited to supply operations in the field.

In the past 25 or 30 years, the concept of logistics has been greatly expanded. Today logistics is commonly interpreted to include the entire industrial and economic base of military operations. I think that you can see that economic mobilization and logistics in this broader sense cover pretty much the same ground.

The attention in logistics is fixed primarily on the distribution, or field supply, end of the subject, while in economic mobilization we give more attention to the resource of production base.

Now warfare, organized warfare, that is, has always rested, on an economic base. The conduct of warfare has always required, not only fighting men, but the weapons, the food, the clothing, and the equipment necessary to outfit them and supply them in the field. And all these men, supplies, and equipment, of course, don't come out of thin air. They come from the productive resources, that is, from the economy, of the Nation. They come from Agriculture; from mining; from manufactures--supplemented by the Nation's imports. In general, the kind of war and the scale of war that a nation can fight depends on the extent and the kind of its productive resources.

Warfare, to repeat, has always rested on an economic base; but not until comparatively recent years has what we call economic mobilization become necessary, With certain exceptions, one of which, our own Civil War, I shall refer to tomorrow, economic mobilization belongs to the past generation. It's as new as the auto, the airplane, and the radio; and it is in part a result of these and other technical innovations.

The first general resort to economic mobilization came during World War I. The second time was in World War II; and then, in 1950-1953, we were engaged, with some of our allies, in a third economic mobilization--the Korean War--this third time for a limited war, but one which might have developed into an all-out war--but fortunately did not.

Now, just for emphasis, let me repeat my first two main points.

First, economic mobilization is a phase, in my view the major phase, of the logistical or supply side of warfare. It is the counter part of military mobilization, the calling into service of troop and other military units. Its function is to provide the supply base for tactical operations in support of strategic plans.

My second main point: While organized warfare has always rested upon an economic base, economic mobilization is a relatively new phenomenon. It is a development of the last generation, and therefore something quite new in the long history of warfare.

In fact, the changes of the past half-century in the logistical requirements, conditions, and problems of war have been so great as to comprise a revolution in both warfare and logistics. And this, of course, is the second topic in my outline.

Now, we are all familiar with the weapons-and-equipment side of this military revolution. Less familiar and less well understood are the broad economic implications and consequences of the new logistical situation.

The economic aspect of this military revolution can be made clearer by distinguishing between what I call the ordinary and the extraordinary measures which in our time have become essential for the effective logistical support of the Armed Forces.

Now, what do I mean by "ordinary measures?" By ordinary measures I mean simply those measures which governments prior to our time customarily employed to provide the supply requirements of war. Broadly speaking, these ordinary measures fall into three groups:

(1) Raising troops, by whatever means, voluntary or compulsory.

(2) Providing all kinds of military equipment and supplies.

(3) Raising money to pay for the supplies and equipment and to meet payrolls.

These are what we would call today, respectively, the manpower, the procurement, and the financial problems of war.

Now, it is true that, in dealing with these ordinary problems, governments may and often do resort to unusual methods. Supplies and property may be commandeered without payment. Loans may be forced and funds seized to fill an empty treasury--and so on.

But, and this is the important point to note, the actual working of the economic system, the functioning of the productive resources of the Nation, is, in its essentials, not interferred with. For example, in a country such as ours, with a private-enterprise economy, the Government, in its 19th century wars, met its supply problems customarily by going out into open market and buying what it needed, at the best possible prices. Getting equipment and supplies was therefore pretty much a straight procurement job. Very often, it is true, the job was what we call badly handled for lack of planning and preparation, in the wars of the 19th century. But, with minor exceptions, no attempts were made in these wars to interfere with the normal conduct of business and production.

For example, they did not tell manufacturers what they could or could not produce, to whom they could or could not sell, and at what price; or control the sale and use of scarce materials, facilities, and equipment; or regulate prices, wages, and credits.

With the coming of the First World War, all this was changed. As a result of the new conditions and weapons of warfare, there was a tremendous and unprecedented expansion in military requirements--for reasons which I shall go into tomorrow.

Now, all these new developments that came to a head first during World War I added up, as I have suggested, to a real revolution in the conduct of war--a major break with the past. This revolution, as I remarked, rested primarily on new weapons and equipment; but these new weapons and equipment were products of technology and industry. They were based above all on the mass-production methods and techniques essential to produce them in the tremendous quantities employed.

This revolution in warfare, therefore, has greatly broadened the economic base of military power. Today, as always, military effectiveness depends on the size of armed forces; upon fighting spirit and

ability; upon skill and leadership in combat operations. But it depends no less upon the technical, industrial, and economic back-up essential to equip, supply, and maintain these forces. War in our time has, in fact, become far more than a contest between the armed forces of nations. It is much more even than a conflict between these forces and the great manufacturing industries which supply them with munitions and equipment. It is a struggle, in fact, in which all the productive resources (including the economic systems by which these productive resources are coordinated and directed) are mobilized in support of the armed forces.

Let me restate the situation this way: In the past generation the armed forces have become quite literally only the cutting edge of a vast war-making machine; a war-making machine which includes all the resources of the nation. In many respects the economic and civilian aspects of warfare have come to overshadow--quantitatively at least--the military side of war. In fact, the traditional distinction between civilian and military is coming to have less and less meaning in wartime. In this new age of aerial and atomic warfare, it may have no meaning at all.

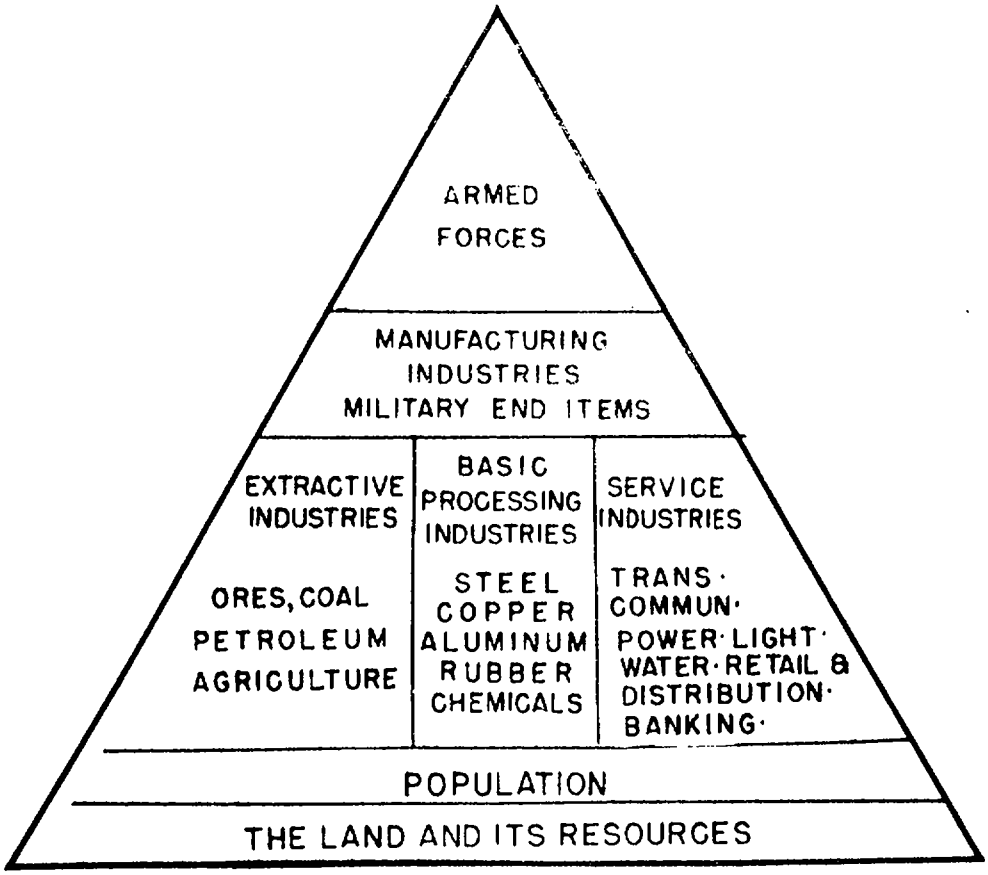
This bring me to Topic III--Economic Foundations of Modern War.

Now, to represent this basic fact about modern war I have had a very simple chart prepared, in which the various elements to be mobilized in wartime are represented as layers of a pyramid (chart 1, page 11).

Here at the top, the apex of the pyramid, are the Armed Forces, which I have referred to as the cutting edge of the national war machine. Immediately below the military apex of the national war effort is what we call the industrial back-up of the Armed Forces. This layer is made up of manufacturing industries engaged in the production of a wide variety and vast quantities of military end-items--not only weapons, ammunition, and other military hard goods, but food, clothing, and innumerable civilian type supplies. This layer includes tens of thousands of industrial facilities and business organizations--the prime contractors, the subcontractors, the sub-subs, and so on.

Now, however crucial the importance of manufacturing industries in the logistical support of the Armed Forces, it is obvious that these industries do not stand alone. Manufacturers of end items are

CHART 1


ARMED FORCES
MANUFACTURING INDUSTRIES
MILITARY END ITEMS
EXTRACTIVE INDUSTRIES
BASIC PROCESSING INDUSTRIES
SERVICE INDUSTRIES
ORES, COAL
PETROLEUM
AGRICULTURE
STEEL
COPPER
ALUMINUM
RUBBER
CHEMICALS
TRANS·
COMMUN·
POWER·LIGHT·
WATER·RETAIL &
DISTRIBUTION·
BANKING·
POPULATION
THE LAND AND ITS RESOURCES

dependent upon a wide variety of other industries and services. So, beneath this layer of manufacturing industry I have placed another layer; one which is in many respects broader and deeper than the industrial layer which it supports.

As you see, I have divided this third layer of the logistical pyramid into three major parts: the extractive industries; the basic processing industries; and the service industries.

The extractive industries are the primary industries which supply the raw-material needs of the nation--the metallic ores and non-metallic minerals; the fuels, such as coal, petroleum, and natural gas; the wide range of agricultural products, both foodstuffs and industrial raw materials; the many products of the forest industries; and the like.

The basic processing industries, of course, include such critical industries as steel, copper, aluminum, and a long list of other non-ferrous metals--the heavy chemicals, petroleum products, rubber, and so on.

Then comes a whole cluster of what, for want of a better term, we refer to here as the service industries. They include the great transportation systems of the country--rail and steamship, truck and bus, air transport, pipelines, and so on; the communication systems--postal service, telephone and telegraph, radio, newspapers, and periodicals. Then there are the utility services: power and light; water and waste disposal. Then, last, but far from least, come a variety of business services, including among them banking and financial services; wholesale and retail distribution; insurance; advertising; and scores of others.

Finally, at the bottom of this logistical pyramid, we have the two broad layers representing:

(1) the population base, which, as the Manpower Branch will demonstrate, plays so fundamental a role in the military and economic potential of a nation; and

(2) the land itself; the land with its resources, its climatic and geographic features; its locational advantages and handicaps.

As you can readily see, this concept of the logistical pyramid greatly over-simplifies the actual situation. For example, it fails

to show the interdependence of the various layers and parts. The service industries depend on the manufacturing and extractive industries; and the extractive industries depend upon the service and manufacturing industries. But, while this chart oversimplifies the picture, it is useful in suggesting how deeply rooted is the military strength of the modern nation. A failure in any major part of this pyramid will be felt, sooner or later, in a slowing down or reduction in volume of the stream of supplies which is the life blood of the Armed Forces. A crop failure, a transportation breakdown, a strike in a critical industry--any one of these can have serious military consequences.

Strike at the foundations, at the economic roots of military power, and you weaken that power. These are commonplace but fundamental facts in the wartime experience of our generation; but they are relatively new in the long history of warfare.

Let me repeat the third and the fourth in the series of major points around which I am building my talk this morning.

Third: Economic Mobilization is concerned especially with those extraordinary measures which governments have found indispensable for giving the armed forces adequate logistical support; measures which go beyond, much beyond, the traditional war-supporting activities, to which I referred of raising troops, procuring military supplies, and raising money--measures which, as you will see, include direct government intervention in and control of the economic system.

My fourth major point: The Armed Forces are but the cutting edge of a tremendous national war-making machine, a machine which includes all the productive resources of the nation.

This brings me to what is in many respects the most difficult and the most complicated phase of economic mobilization:

Point IV in the outline: The Capitalistic System and Economic Mobilization.

I think you will readily see that we don't have the whole logistical story, by any means, when we have listed all the productive components in this so-called logistical pyramid. These productive components, these farms and factories, these mines and mills, and all these raw materials and manpower, are simply cogs or parts in a vast, complicated,

and delicately balanced economic system, an economic system which has drive and movement; an economic system which has direction and coordination; an economic system which is subject to disturbances which can and do interfere at times seriously with its efficiency and its effectiveness; an economic system in which balance and stability are very important, and very difficult to maintain.

The problem we are faced with in economic mobilization is not simply that of getting production--production in the usual sense of the term--production as conducted in mill, mine, and factory. We have got to get the entire economic system, of which production facilities and output are only a part, working at a maximum effectiveness. This means not only factories, mills, mines, and physical plant, generally, but also such diverse things as filling stations and drive-in movies, installment buying and social security, trade associations and labor unions, advertising and salesmanship. It also means free enterprise, private property, and the profit motive.

Our economic system, we hardly need to be reminded, is one based on private property and private enterprise--in a word, it is capitalism. It is a system which contrasts sharply, of course, with other economic systems, such as socialism and communism. It is a system in which the main driving forces are self-interest and private profit.

We are all familiar with the extraordinary peacetime achievements of this capitalistic system, this private enterprise system of ours. Operating with the aid of our great wealth of natural resources and within the framework of our political institutions, it has made us by far the richest nation in the world. In overall productivity, in national income, and in standard of living, we lead the world. No other major nation comes anywhere near us in economic achievements.

The most distinctive feature of the capitalist or private enterprise system is this: It is a system in which the basic decisions are made by private individuals and private business organizations, operating in the open competitive market, the free market, under the changing conditions of supply and demand; decisions by you and me and by tens of millions of other Americans; by General Motors and AT&T, and the corner grocer, and hundreds of thousands of other business organizations, small and large.

These basic economic decisions, of course, have to do with such questions as: What goods and services shall be produced; in what quantities and of what characteristics and qualities; for what prices these goods and services shall be sold; and to whom they shall be sold. All these decisions, these basic economic decisions in our productive system, are normally made by private individuals or private organizations, whether as producers or middlemen, whether as businessmen or as individual consumers.

Furthermore, in this peacetime private-enterprise economy, coordination--that is, basically, the balancing of supply and demand--is provided by the more or less automatic operation of the market.

Now, it is right at this point that we get into our greatest difficulties in mobilizing our resources for war. Even under normal, peacetime conditions, this coordination, this balancing of supply and demand throughout the economy, has been one of the weakest points in the operation of the free-enterprise system. The periodic and often violent swings from boom to depression have given this system a bad reputation in Europe and elsewhere throughout the world.

The abnormal conditions of a war or defense emergency greatly accentuate this instability and compel the Government to take positive steps to provide the coordination and stability essential for getting maximum production.

This brings me to my next major conclusion, and also to the next topic in the outline, Government Controls in a War Economy. In contrast with the private enterprise economy--the free-enterprise economy, if you will--of peacetime, the war economy is a planned, directed, and controlled economy. That is, it is an economy in which the most important decisions are made, not by private businessmen or business organizations or consumers, as normally in peacetime. These basic decisions are made instead by government agencies and officials responsible for the direction and achievement of the war-production programs essential to the achievement of strategic goals.

These decisions, as I indicated earlier, include decisions as to: What kinds of goods shall be produced? How many? For whom? On what time schedules? What prices shall be paid and on what credit terms? What wages may be paid and what profits will be allowed?

To make these decisions, and to make them stick, requires, we have found in the past elaborate systems of controls, administrated by government agencies, usually emergency agencies of great size, employing tens of thousands of people. It is necessary to have controls over materials; over prices; over manpower; over credit; and over many other things.

Now, why is all this necessary? Why, during a national emergency, do we interfere so drastically with the free operation of an economic system which has produced such extraordinarily effective results in peacetime? The practical answer to this question is to be found in the lessons of experience. In the First World War, the belligerent nations, in the first instance, made the attempt to support the war with business-as-usual methods--which in most countries, meant private-enterprise methods. This simply didn't work. A few months' experience demonstrated that it was either drastic government control of the economy or failure to meet urgent military requirements.

To explain why we abandon a free economy in wartime is not so easy. It is not easy, because it goes to the very heart of the way in which our economic system is organized and functions. There is nothing quite so vast, quite so complicated, as the private-enterprise economy in a nation so large as this.

It is scarcely possible in a few minutes to provide the explanation the question calls for: but I can, perhaps, indicate something of the nature of the answer by discussing the matter briefly under three headings:

(1) Diversion

(2) Stability

(3) Coordination

Let's Take a brief look at what I call "diversion."

A major objective in a war economy is the maximum diversion of productive resources from civilian to military uses. At the peak of World War II, this diversion, in the case of the major powers,

amounted to more than 40 percent of the total national income of these powers. Obviously, the scale and intensity of your military effort will depend directly upon the size of the Armed Forces and the completeness of their equipment and supporting activities.

There is just one important limit to the amount of this diversion of resources--raw materials, factories, manpower, and so on, from civilian to military uses--a limit that the military, and even civilian authorities, have not always been too careful to observe. This diversion must not be carried to the point where it lowers the productive efficiency of the economic system. To paraphrase: Don't starve the goose that lays the military hardware.

The great national production machine must be kept in efficient running order. To do this we must provide the materials, the labor, and the equipment essential for the maintenance, repair, and operation of factories, railroads, and utilities, together with essential civilian services, such as automobiles, laundries, bakeries, schools, and so on. All these things are essential to keep the civilian economy at a high level of productive efficiency. If we don't keep it at such a level, production of military hardware and other supplies of war will sooner or later suffer.

Now, in principle, everybody agrees that there should be a maximum diversion of resources from civilian to military uses in wartime. It is only when it comes down to giving up that new automobile, or bicycle, or TV set, or the tires and gas and replacement tubes essential to use them, that the disagreement sets in. It is not only what goods civilians should give up, but which civilians should do the giving up--who should get the A, B, and C ration cards for gas.

We Americans, of course, are no different from a lot of other people in that we want to have our cake and eat it, and war seems to provide us with the opportunity to do just this. In the United States--and this is also true of many other countries--war and prosperity have nearly always gone hand-in-hand. The reasons are plain enough. Military orders provide the basis for a business and industrial boom; contracts for military supplies and equipment supply more business than existing factory capacity can take care of. Not only is any unemployment quickly wiped out, but millions of persons not ordinarily in the labor force (housewives, teenagers, etc.) are drawn into production. Wage rates and total wage income both rise steadily, as a

result both of the enlarged labor force and of higher wage rates, overtime pay, upgrading, and the like. Everything is on the up and up, especially incomes, both individual and family incomes.

Now, how do people behave under these delightful circumstances? We all know perfectly well how we behave. We behave perfectly naturally. We go out and get the things we have been wanting for sometime. Now we can turn in the old car, or get the new washer or TV set or woodworking tool or fur coat. And the stores can hardly keep the stuff on the shelves as consumers flock in with full pocketbooks and a gleam in the eye. By chain reaction this consumer demand moves back to wholesalers and other suppliers and to the factories that turn out the stuff.

Before long factories go on overtime and then double shifts to keep up with the business. Everything is wonderful for everybody--that is, everybody but the procurement officers trying desperately to place tens of thousands of contracts for thousands of military items, large and small.

Given a choice between keeping on with his usual business and military contracts, it will take a very strong sense of public duty and patriotism for the typical businessman to shift from civilian production in his normal line to military production under these conditions. Experience has shown that relatively few will do so without some degree of compulsion.

The reasons for this are not difficult to understand. Military items are often unfamiliar and must be made to very exacting specifications--far more so than normal civilian items. The changeover or conversion of production facilities is often difficult and time consuming, often requiring the pulling out of old machinery and the putting in of new, and a complete rearranging of assembly lines and equipment in the plant. In fact, government business in the defense or war emergency brings with it endless headaches and endless problems. Then, of course, there is always the very real prospect of postwar congressional investigations.

Then, suppose you are patriotic, as a businessman, as an industrialist, and give up making widgets which the Army does not need for shell fuzes which it does. This leaves your competitors in a position not only to exploit the current widget market to great profit but the end of the emergency will find them in possession of this market, with you virtually an outsider in the business.

What this all adds up to is this: If you let nature, that is human nature and the market, take its course, you won't get the maximum diversion of production from civilian to war uses that the war situation demands. Instead of civilian demands giving way to military demands, there will be competition between them, with the military often getting the small end of the deal. Experience in past wars demonstrates this conclusively.

These, then, are the reasons why we introduce controls--to make sure that scarce materials, scarce facilities, scarce equipment, and scarce manpower are diverted from their normal uses into those uses that will best promote and advance the war effort. To accomplish this diversion is a major task of economic mobilization and a very difficult one.

A second reason why a controlled economy, instead of a free economy, has been found essential in war times has to do with the stability which I referred to earlier. During this year you are going to hear a great deal about economic stability, or, to use the more common term, economic stabilization. What is it? Well, for our purposes here, let's just say that where you don't have it, you have rising prices, inflation, and all the headaches that go with them. And inflation is of course simply the most obvious symptom of a disease that effects the entire economic system.

The problem of economic stability is by no means a problem confined to wartime only. It is a major peacetime problem as well, as I have suggested. The alternation of boom and bust has presented one of the major weaknesses of the private-enterprise system. The very question of whether we were or were not in an economic recession became a major economic and political issue, you may recall, something over a year ago. Experience has shown us, too, that it doesn't take much to start us either down the road to depression or up the road into inflation. Of one thing there can be no doubt whatever--the serious consequences of uncontrolled inflation, not only for war production, but for the entire national war effort.

What happens is something like this: The tremendous requirements of the Armed Forces, added to expanding demands for civilian consumer goods build up the demand side of the market so heavily that supply can't possibly keep up; and a chain reaction of price increases in the inevitable result. One man's prices for another man's costs and so ad infinitum. Soon we have the upward spiraling of prices and inflation follows its familiar course.

This isn't the place to go into the serious effects of inflation upon the war effort. The uncertainties of prices and costs add tremendously to the difficulties of military procurement, from both the contractors' and the military services' viewpoints. Speculators have a field day as every one in the trade tries to buy up scarce materials and commodities and making a killing, since prices have nowhere to go but up. While a few make fortunes, a great mass of the people suffer, especially the millions of persons on fixed incomes, a very large group in these days of social security, pensions and annuities. This group really takes a beating. Wages lag behind prices, and this leads to labor difficulties, which may end up in strikes and idle plants. Public morale suffers and with it the sense of national unity.

So the Government steps in, is compelled to step in, to provide the stability that the market itself can no longer provide. The Government puts into effect a variety of control measures that we are all familiar with, some of which I have already referred to--price control, including wage and rent control; credit controls rationing; taxation; savings bond programs, and so on.

So much for Stability. Now a few comments on Coordination. The problem of coordinating a war effort has become increasingly complicated and difficult. At one stage in military history, the problem of coordination was chiefly between the different units of the same fighting force. For example, read any detailed account of a major Civil-War battle; success or failure often hinged on the ability of the commanding officer to coordinate the forces at his disposal.

Today we are faced with the problem of coordinating Army, Air, and Naval Forces--not in one, but in several major theatres in widely separated parts of the world. Coordinating the military forces is only one part of the large picture. The problem of coordination cuts across every phase of economic mobilization. Military requirements must be balanced against production capabilities. Military requirements must also be balanced against essential civilian needs. There must be balance, too, between the many items of basic military equipment and the raw materials and components required to produce this equipment. In a tight war economy, in fact, too much of anything is as bad as too little, because too much of one item, almost inevitably, will mean not enough of something else. Too much high octane gas may well mean not enough synthetic rubber; too many antifriction bearings may result in too few fractional horse power motors.

It all adds up to this: In a defense or war emergency, we have to have centralized direction and control, not only of the Armed Forces, but of the economic system itself. Every part of the war effort must be kept in step with every other part. Innumerable programs must be kept in balance. Only in this manner can the indispensable coordination of effort be obtained with the speed and with the effectiveness that a maximum war effort requires.

Again and again in World War II, as you will recall, the conduct of major military operations was held up by the lack of essential equipment--ships, planes, landing craft. heavy guns, and so on. Back of shortages of such equipment were shortages of steel, of aluminum, of rubber; shortages of generators, of heat exchangers, of motors; shortages of manpower, and so on.

We are now well over the hump in this lecture, and in the few remaining minutes I want to discuss with you the significance of economic mobilization for the military profession, which is the last topic on our program.

But first I want to give you a brief recap of what we have covered so far this morning. Let me repeat the key points, together with the definition with which we started. There will be more or less overlapping in these points, as you will see.

First, the definition:

> Economic Mobilization is the process by which all the productive resources of the nation are organized and directed in support of the Armed Forces for defense or war.

1. Logistics comprises not only supply operations in the field, but all the industrial and economic activities essential for the support of these operations.

2. War in our time has become far more than a contest between the armed forces of nations. It is a struggle in which all the productive resources of a nation are mobilized in support of the armed forces.

3. Economic mobilization goes far beyond the traditional war-supporting measures of raising troops and money and procuring supplies. It involves extraordinary measures of intervention by the Government in the actual operation of the economic system.

4. The Armed Forces are but the cutting edge of a national war machine whose civilian components include all the productive resources of the nation.

5. In contrast with the private-enterprise economy of peacetime, the war economy is of necessity a planned and controlled economy, organized and directed by the Government.

This brings me to the sixth and last item in our outline: The Relationship of the Armed Services and the Military Profession to Economic Mobilization.

My discussion so far this morning has focused on the basic role of economic resources in the conduct of modern war. You may concede everything I have said and yet argue that economic mobilization is a civilian responsibility, a civilian task, and something with which the military need not concern themselves. You may possibly hold that the increasing range and complexity of military operations is such as completely to absorb the time, attention, and energies of the Armed Forces--therefore, why bother military men with what are essentially civilian tasks.

This viewpoint is not without some weight; but I think it breaks down under close analysis. The military profession cannot safely limit its understanding of the art of war to the conduct of military operations in the field. They must be familiar not only with the cutting edge of the national war machine which they represent but with this machine in its entirety. They must see the relationship between the Armed Forces and all the productive resources of the nation. They must understand the close dependence of military operations upon the condition and the functioning of the supporting civilian economy. They must realize that a strong and healthy economy is the essential foundation of military power.

If the national military machine is to operate at full effectiveness, there must be close and smooth coordination of all the parts of this machine; not only between labor and management and between government and business, but above all between the military and the civilian components of the national war machine.

Military strategy, if it is to be sound, I think you can see, must be closely related to the ability of the economic system to support the operations called for by that strategy--support in terms of ships,

aircraft, munitions of all kinds, and men. For the military to ask for too little in men, materials, and munitions will prolong the war and endanger the outcome. To demand too much may result in an overload on the economy that will lower rather than raise output.

You must not get the impression, however, from what I have said that the military stand entirely outside the field of economic mobilization and that their role should be simply that of an understanding and sympathetic observer. Actually, the Armed Services have primary responsibility, indeed, exclusive statutory responsibility, for one of the major functions of economic mobilization; the design, the development, and the procurement of virtually all military supplies and equipment.

Our total war outlays in each of the peak war years of 1943 and 1944 was more than $50 billions, or more than 40 percent of the national income in those years; and military expenditures accounted for the great bulk of these outlays. Peacetime and the cold war have brought little relief, as you know. Over two-thirds of the Federal budget in fiscal year 1955 went for national security, and well over half these expenditures for national security were for direct military purposes.

In fact, the Department of Defense operates the largest business establishment in the country, by far. The scale of its operations makes the largest industrial giants, such as AT&T, General Motors, Pennsylvania Railroad, and U. S. Steel seem small. For example: In Fiscal Year 1955, the Department of Defense employed four million three hundred thousand persons, or seven percent of the entire active labor force of the United States--twice as many workers as the ten largest corporations. In Fiscal Year 1955, too, the Department of Defense spent 42 billions of dollars, or one-seventh of our national income.

Understandably, the impact of these tremendous military expenditures upon the national economy is very great. Badly handled, irresponsibly handled, procurement on the tremendous scale required by the present military establishment can disorganize markets, stimulate speculation, create serious shortages, accelerate inflation, and lower national morale and unity.

So long, at least, as the military establishment continues to have responsibility for procurement, military men must be equipped with

the knowledge and understanding of the war economy and its mobilization, which is so essential for the wise exercise of this responsibility.

It is for these reasons that the study of the problems of economic mobilization has come to occupy an increasingly prominent place in military education during these postwar years.

Thank you very much.

COLONEL WALSH: Gentlemen: Notes will not be taken by visitors. Visitors are also discouraged from asking questions. The question period is for the students. Normally, the faculty member receives the questions from you and tables them to the lecturer. Today, since Dr. Hunter is a prominent member of the faculty, he will recognize you individually.

DR. HUNTER: May I make one comment first. One of the nicest things, the most distinctive things, about this institution of higher learning is the informality of relationship between the faculty and the students. This brings me to point up the first-name basis which we revert to particularly. I hope you will not call me "Doctor." Call me "Louie." I have unpleasant associations with doctors.

QUESTION: When they asked Einstein how he discovered the theory of relativity, he said it was by challenging an axiom. I am having difficulty with the definition. The definition you have given us is that economic mobilization is a support of the Armed Forces. I submit that that may be too narrow; that the real purpose, at least of modern economic mobilization, is to achieve the objectives of the war. Some of this may be done by agencies other than the Armed Forces--activities which in fact may be designed to obviate the use of the Armed Forces--such as foreign aid during wartime; propaganda; and other things like that.

DR. HUNTER: Your point is very well taken. We wage war these days by a variety of means--military, economic, psychological, and the like. Here I was over-simplifying the situation, in confining attention to the strictly military aspects, the operational aspects, of warfare.

QUESTION: Louie, I am commenting on Items V and VI of the outline. One of the difficulties in past economic mobilization has been the problem of harmonizing the military planning with the civilian

control instituted during the war. In World War I we had the War Industries Board. In World War II we had the War Production Board. If you place importance on these boards, the argument first of all is that they cause a lot of change. Second, they soon overtake the military thinking, dominate it, and take over control. Do you believe ODM will be able to control that better at the present time?

DR. HUNTER: Well, this problem of the appropriate relationship between the military and the civilian authorities in the waging of modern war is an extremely difficult one, not so much to solve as to work out. Some of you may have seen the long letter to the editor in the Sunday New York Times by Mr. Hook, who is the head of one of the Hoover Committee task forces. This letter was in reply to an earlier article by Hanson Baldwin in the 9 August New York Times. In last Sunday's Times Mr. Hook's letter was followed by the rebuttal, so to speak, by Mr. Baldwin. The central theme they were discussing was: Just how far are civilians moving over and getting into the strictly military field? Or, on the other hand, how far are the military tending to get over into what are essentially civilian tasks?

Those of you who were in Washington during the Korean conflict and the Second World War recall the bitter battles as they were fought out in the newspaper headlines, as well as behind the scenes. You recall the continual tug-of-war that went on between WPB, for example, and certain parts of the military establishment; this need not be gone into further here. But keep this in mind. In the past, the military in wartime has had its brief moment of importance and glory, and then in peacetime would be cut back to almost nothing and pushed away into a corner. Now the situation has greatly changed, as a result of the changed international position and the responsibilities of the United States. The military, for the first time in our long history, occupies a position of great importance in peacetime government and in peacetime policy making.

This is a new relationship, and there has got to be a lot of give and take, a lot of working out of this relationship so that there is mutual understanding of how these two vast divisions of our Government, the civilian and the military, can work together.

That is replying on a pretty generalized basis. Does it somewhat deal with the point you had in mind?

QUESTION: Louie, you brought out this point of the application of about 40 percent of our gross national product diverted to the military, and you sounded the warning that we must never take so much of it as to lower the efficiency of production. By hind sight, if we look back to see when we have reached that point, I have always had to get the idea that we didn't even begin to put the bite on the civilian economy that it could stand if we needed it.

I have also the theory that those in authority vastly under-estimate what the people can come up with if they ever needed it for national survival. In other words, in spite of the warning, I think in the past we haven't begun to ask our people what they really can come up with if we have to do it to survive.

DR. HUNTER: Your point is very well taken. In my talk tomorrow, when I deal with the Second World War, I will have something to say about this. It is true that in World War II the civilian population as a whole except for scarcities of certain types of hard goods like autos and washing machines, never had it so good. On the other hand, there was continual battle going on within the war agencies with respect to how much steel the railroad should be allowed for new cars, or how much rubber should be allowed for tires, and whether coca cola was an essential war goods.

In terms of the overall picture, it is true that the civilian population never had it so good; but in terms of particular spot areas, there were really critical situations that presented very real problems in handling and not a little controversy.

There is no easy answer to the question how far you can go. The general feeling among the students of economic mobilization is that if there had been occasion we could have gone much further. But it doesn't do much good to say that our boys are fighting over on the battlefield and are giving up their lives. Such logic leaves most people cold. You get emotional rather than logical responses to most situations. So it is necessary to reckon with the state of public opinion and morale at the time to know how far you can reduce the amount of goods that civilians will be allowed to have. But if we were invaded or subjected to shells and bombardment as the British were, undoubtedly we could carry the reduction of civilian needs much further.

QUESTION: Have we begun to feel that in modern war the battle between civilians and the armed forces will cease? The civilians are playing the Army role, out front. Next time they are going to take a hell of a lot more beating than we are going to get. There will be much greater casualty rates. They will be on the firing line. We are going after their civilian responsibilities and they are going after ours. Why can't we sort of grow up? Let us get organized for it now.

President Eisenhower asked for standby controls a year ago and got slapped on the teeth. Congress wouldn't but it. We had something like that situation before World War II. It was thrown out. It never got out. It seems to me we came pretty close to it in World War I. I don't understand why the population as a whole can't realize that we no longer fight with a few people in fancy full-dress uniform like we did in 1800. We are far away from that now.

DR. HUNTER: There is, of course, much truth in what you say. You are going to be working with one phase or another of this general problem throughout the year. For the final problem of the course the students are organized into committees with the task of working out a plan for an effective economic mobilization of this country in time of war. In each of the past two years the problem assumed a major atomic war. We worked out estimates of how many were killed and injured. There was a successful atomic attack on say 50 metropolitan centers, with the dead running into 10 to 12 million. How far the public can be brought to realize in advance the seriousness of this possibility is the worry of many people in government.

QUESTION: Aren't they aware of it now?

DR. HUNTER: You know as well as I do the extent to which they are--the difficulties, for example, in getting awareness and recognition of the threat of atomic warfare. You and I are members of this general public. If I personally really believed that atomic war was imminent, the first thing I would do would be to move 30 miles out of Washington, well outside the area of direct casualties. I live well within the range of the fatal blow. I don't take it too seriously. I wonder how many of you really take it that seriously. We talk about it logically, as I say, but emotionally does it really get across? Your ideas are as good as mine on that subject.

QUESTION: You mention the necessity for the military to understand the economic aspects of our country. I would like to suggest that we throw in there some political aspects, too. In America we sort of need to understand the politics of a democracy. What strikes me in my reading so far in that major field in World War II planning was the political naivety of the times--timing and degree. I suggest we need to understand the strength and degrees of military planning compared with the political aspects of our country.

DR. HUNTER: You are quite right. We have been giving increased attention to this phase of the subject at the Industrial College. We recognize today that what we are dealing with is not simply economics as they were in the 19th century, but political economy. You will find that throughout the course attention is given again and again to the political aspects--not in the narrow partisan sense of the term "politics"--that is recognized-of course--but in the broader sense of the interrelation of the political factors, economic and psychological.

QUESTION: We have had a tradition in the Armed Forces that no peacetime organization is worth anything unless it is also one that is usable in wartime. If we agree to that and then look at your statement that the capitalistic system won't work in wartime, do I get from that that you are advocating for the eventful defense of the country some permanent set of controls and departures from that system?

DR. HUNTER: Next question. (Laughter) No, seriously, I am not, of course. I did not state that the capitalistic system would not work in wartime. My position is simply that the capitalistic system, unregulated, uncontrolled, would be very likely to do a very bad job of it. We keep capitalism--but we bring it under close regulation and control. Here is where we get into one of the contradictions of the system. The main driving force, as I have suggested, is self-interest--the profit motive. Self-interest and the profit motive get in the way of the industries converting from civilian to war production. People have talked about taking the profit out of war, and it sounds fine. But what happens when you take the profit out of war? In our system, the driving main spring is the profit motive, the desire for profit, the promotion of self-interest. So we still keep it and yet we complain about it; and the boys overseas in the trenches complain about the boys back home getting ten times as much in wages as they are getting in the trenches, complain about the high profits, and profiteering and so on.

That is the defect of the virtue of the system. We keep capitalism, but we regulate it and control it as we would and could not begin to do in peacetime.

COLONEL WALSH: Gentlemen: I see it is 12 o'clock. We try not to encroach on your lunch hour. I have one comment to make. Captain McCaffree asked you, when we have a visiting lecturer, to identify yourselves--such as, "My name is Walsh, Army."

Louis, I am sure that your remarks as evidenced by student interest in the question period--have been extremely provocative. We are looking forward to another lecture by you. Thank you very much!

DR. HUNTER: Thank you.

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