

THE ECONOMICS OF NATIONAL SECURITY

21 August 1956

CONTENTS

	<u>Page</u>
INTRODUCTION--Colonel R. A. Barrett, USAF, Chief, Mobilization Branch, ICAF.....	1
SPEAKER--Dr. L. C. Hunter, Member of Faculty, ICAF .	1
GENERAL DISCUSSION.....	21

Publication No. L57-4

INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

THE ECONOMICS OF NATIONAL SECURITY

21 August 1956

COLONEL BARRETT: The series of lectures you are receiving this week is to give you a background before you move into your more specific areas of study. The first three, the two yesterday and one this morning, have been rather general in nature. With this lecture, we move into an area that is a little more closely related to the course of studies during the year. The subject is "The Economics of National Security." The lecturer is Dr. Louis C. Hunter, a member of the resident faculty of the College. Dr. Hunter.

DR. HUNTER: General Hollis, General Calhoun, Gentlemen: My subject this morning, as Colonel Barrett has indicated, is "The Economics of National Security." This is the same as the title of the Branch Monograph which was revised this summer and which you are presumed to have read. This rather forbidding title was chosen because it comes about as close to describing the overall character and content of our course of study as any single phrase can.

It isn't economics pure and simple, for indeed there is no such thing. It is economics combined with politics, with administration, with geography, with psychology, and a good many other things, too. But the core of the course is production within the framework of the national economy. And this is economics.

My purpose this morning is a relatively simple one: I want simply to give you some further idea of what this course is all about and to indicate why it is important that the military--and not only the military but civilians in all agencies concerned with national security--understand the subjects with which our study deals.

My remarks will focus upon a number of basic concepts, and if, in the next 40-45 minutes and the question period which follows, we can begin to reach some common understanding of these concepts, we will have accomplished a great deal.

Let us start then with the first topic in our outline: Definitions. In any discussion, it is sound practice to begin by defining your terms, and to start with the familiar is good practice too. The art of war breaks down into the three main divisions of strategy, tactics, and

0074

logistics. As a baseline for our discussion, let us take a look at the conventional definitions of these terms as provided by Webster.

"Strategy: The science and art of employing the armed strength of a belligerent to secure the objects of war." Strategy, of course, determines the overall plan for the conduct of defense or war. It defines the military objectives and outlines the means for attaining them. It supports the political objectives or goals of the Nation.

"Tactics: The science and art of disposing and maneuvering troops or ships in action or in the presence of the enemy." We can see how old-style Webster is. The Air Force doesn't get into the act at all. In short, tactics are concerned with the conduct of military operations, combat operations, in order to attain strategic objectives in support of national goals.

"Logistics: That branch of the military art which embraces the details of the transport, quartering, and supply of troops." In other words, it is the job of logistics to provide the ammunition, the food, clothing, and all the equipment essential to place military forces in the field and to support them in combat operations.

All this is very commonplace of course. The thing I want to stress here is that two, at least, of these basic military concepts have taken on new content and meaning during the past generation, especially during and since World War II. Like so much of our military inheritance, they have been overtaken by obsolescence and are out of touch with the times.

Strategy as conceived today, goes much beyond the traditional meaning of the term as defined by Webster. His definition, as you see, centers on using armed strength to secure the objects of war.

Now, let's take a look at the current definition as given in the Dictionary of U. S. Military Terms for Joint Usage. "Strategy: The art and science of developing and using the political, economic, psychological and military forces of a nation during peace and during war to afford the maximum support to national policies, to increase the probabilities and favorable consequences of victory, and to lessen the chances of defeat." That's quite a mouthful. As you can see, it covers far more ground than the simple definition given by Webster.

Logistics, too, has taken on a new and far broader meaning than in the past. In the traditional concept as defined by Webster, the production and the procurement of military supplies is not mentioned. These vital functions of supply are either ignored or taken for granted. Under the traditional concept, logistics was pretty much limited to supply operations in the field.

As a result of experience in two World Wars, logistics today is commonly considered to include not only supply in the traditional sense as defined by Webster, but the procurement and production of all military supplies and equipment as well. Some writers in this field include under logistics the entire industrial and economic base of military operations--in short, the national economy.

I shall spare you the definition of logistics as given in the Dictionary of U. S. Military Terms. It occupies eight lines and includes 25 words of three or more syllables. Briefly to consider it would hold up this lecture at least five minutes.

Now that we've seen what the New Look has done to strategy and logistics, let's take a look at "Economics and National Security," the term which, as I suggested, pretty well covers the substance of our course.

At first sight, the definition presents no particular problem. In scope at least economics is very much today what it has been since Adam Smith. It is concerned with the production, distribution and consumption of wealth. So our subject becomes: the production, distribution and consumption of wealth as these are related to and affect national security.

But what is national security? We won't get much help from Webster or the Dictionary of U. S. Military Terms on this one. Webster gives several meanings for Security: "freedom from exposure to danger;" "assurance of safety." These are something obviously we don't have as regards the Nation. "Protection." This is somewhat closer. We'll do better if we define the meaning of national security in terms of postwar usage.

Let us see who is responsible for the protection of the Nation. In this Nation, before World War II, protection was conceived almost entirely in military terms. National protection was thought of almost exclusively in terms of military defense, and this was the function of

0078

the War and Navy Departments. Of course, specialists in foreign relations and members of the Foreign Service would have insisted on important roles for foreign policy, the conduct of foreign relations, and the State Department, but I think it fair to say that prior to World War II most people in this country most of the time thought of national security almost solely in terms of military defense.

Now this is a subject on which Colonel Barrett will have a good deal to say in a later lecture. I simply want to make the point now that since 1945 national security has been conceived in far broader terms than previous to World War II. Within the Executive Branch, since 1947, responsibility for national security is shared in a direct and active way by at least a half dozen major agencies.

In addition to a greatly expanded military establishment and Department of State, there are the National Security Council, the Central Intelligence Agency, the Federal Civil Defense Administration, the Office of Defense Mobilization, and the Atomic Energy Commission. In the Federal budget today we will find the expenditures of all these agencies, and some lesser ones, grouped under the heading "National Security Expenditures." Of course, personnelwise and dollarwise, the Department of Defense is by far the largest of the agencies concerned with national security. But, needless to say, responsibility and influence are distributed much more evenly among the agencies I've listed here.

So much for the meaning of national security and of economics considered separately. Now we must consider them together.

Perhaps the simplest way to grasp the meaning of the economics of national security is to translate it into a basic economic symbol that we can all understand--the dollar. What does national security add up to dollarwise? What does it cost?

Chart, page 5.--As a baseline for comparison, let us take our military expenditures in a relatively normal, more or less peacetime period, the 1930's. In the '30's there was no such thing as foreign aid, no atomic energy, no civil defense. Military expenditures were pretty close to the total of our expenditures for national security. Average annual expenditures for the military establishment, 1930-1939, were just under 1 billion (988 million dollars) or approximately one-seventh--say 15 percent--of the total Federal budget in these years. The military establishment cost only a little more in the '30's than the interest on the public debt.

NATIONAL SECURITY EXPENDITURES
 in relation to
TOTAL FEDERAL EXPENDITURES
 and
GROSS NATIONAL PRODUCT
 (Billions of dollars)

Average for:	Nat. Sec. Expend.	Total Fed. Expend.	GNP
1930-1939	\$ 1	\$ 6.6	\$ 77
1947-1950	17	38	258
1954-1956	41	47	383

EXPENDITURES FOR NATIONAL SECURITY
AS A PERCENTAGE OF:

Average for:	Total Fed. Expend.	GNP
1930-1939	15 %	1-1/4 %
1947-1950	44	6-1/2
1954-1956	88	10-3/4

0012

Let's shift next from the prewar years of peace, if not of plenty, and take a quick look at the Federal budget situation in the late 1940's, as shown by the figures on the chart. You will recall that by the end of 1946, the wartime military establishment was pretty well deflated, or so it seems in retrospect. Yet the entire Federal budget, which averaged 6.6 billion dollars in the 1930's, in the four years, 1947-1950, averaged more than 38 billion dollars. Even allowing for changes in the price level--wholesale prices had doubled since the 1930's--this represents a threefold increase in Federal expenditures over the prewar years.

Now see what happened to military expenditures: from a one billion average in the 1930's, they are up to an average of nearly 14 billion dollars. Allowing for the doubling of prices, this means a sevenfold increase in defense expenditures which now account for 35 percent of the Federal budget compared with 15 percent in the 1930's. And if we add to military expenditures the new items of foreign aid, atomic energy, defense mobilization, and other expenses coming under the head of national security, the total for national security reaches an annual average of 17 billion dollars, or not far from one-half of the Federal budget--to be precise, 44 percent.

Let's skip the Korean War, 1950-1953, with its abnormally high expenditures and see what we have for the past three fiscal years, 1954-1956, inclusive. The annual average expenditures for military and other national security purposes was 41 billion dollars, a threefold increase over 1947-1950. National security--that is the military establishment, foreign aid, atomic energy, civil defense, and all the rest--now takes an 88 percent bite compared with 44 percent in 1947-1950.

Let us take one more step in getting military and other national security expenditures in perspective. How big a load do these tens of billions for security place on the national economy. How big a bite do they take out of the total production output of the Nation? The term for this, and one you will be hearing a great deal of during this course is Gross National Product, abbreviated usually to GNP--the total value of all goods and services produced in the Nation during the year. GNP, in other words, is a quantitative measure of the output of a nation's economy.

In the 1930's, as the chart shows, national security expenditures--which were then virtually the same as military expenditures--amounted

to only about 1-1/4 percent of the GNP. Between World War II and the Korean War, 1947-1950, they rose to approximately 6-1/2 percent of the GNP, and in the fiscal years, 1954-1956, they climbed further, to nearly 11 percent of the GNP, to be more precise, 10-3/4 percent. Whether you regard the present as a period of peace, of cold war, or of competitive coexistence, this is a really terrific figure--one-ninth of all the goods and services produced in the richest, most productive economy in the world going for national security in a period of nonwar.

One final point to round out the dollar dimensions to this thing we call national security. As of 1955, the Federal Government--all agencies--held property having an estimated cost of more than 155 billion dollars. We can compare this with the public debt, which is 280 billion dollars. A more meaningful comparison is with private business--155 billion dollars is equivalent to two-thirds of all corporate assets and inventories in this country as of 1955.

Now approximately three-fourths of this tremendous property is held by the armed services. Air Force assets alone are estimated at 36 billion dollars. Taking the Department of Defense as a whole, its property included in 1955 66 billion dollars of inventory in warehouses. Department of Defense property also includes 228 industrial facilities of great size and variety, producing goods all the way from chemicals and metals to explosives, ships, aircraft, and various weapons. These industrial facilities with their permanently installed tools and equipment cost nearly nine billion dollars. They include 30 complete plants for manufacturing aircraft and aircraft components: and 48 shipyards, of which 10 are Government operated.

How much is nine billion dollars facilitywise? It is roughly the equivalent of the total private investment represented by the iron and steel industry in the United States. Or, expressed another way, nine billion dollars represents over three times the combined outlay involved in all the great hydroelectric projects of the Federal Government--TVA, Grand Coulee, Central Valley, and all the rest.

Dollarwise, then, the economics of national security represents not only literally colossal annual expenditures but tremendous property holdings and business operations by the Department of Defense, for, as I noted earlier, some 3/4 of all the vast properties of the Federal Government are held within the Department of Defense, and in the last five years the expenditures of the DOD accounted for nearly 85 percent of the total Federal expenditures for national security.

001

Throughout the ten months of this course, you will find the vital relationships of national security and the national economy stressed again and again. It is not simply that the national economy, with its vast productive resources, is vital for national security; the vast expenditures for national security have hardly less vital implications for the health and effective operation of the national economy. The military departments have economic responsibilities to the Nation that are second only to their responsibilities for national security. The close interdependence of national security and the productive system we call the national economy is a basic fact of our national life.

In the first two topics on the outline, I've been dealing with relatively straightforward factual material, about which there will probably be no great amount of argument. In the remaining three topics we get into progressively deeper water--I'll be up to my neck shortly and some of you will go further and say I'm completely submerged--for I will be dealing with matters that in some important respects are very speculative and highly controversial. My next two topics are Economic Mobilization in National Security and The War Economy: Character and Operations.

In discussing these topics, it is very important that we distinguish between two things: (1) past experience; (2) future possibilities. It's my intent to do just that--first, give consideration to the past and then consider the future.

We are on reasonably safe ground in discussing what has happened in the past with respect to both economic mobilization and the resulting war economy. We are on safe ground in the sense that we have a fairly good idea of what has happened in the past. It is very important that we know what has happened in at least our recent past for the reason that in many matters without the guidance of experience we would literally be lost. But, while in dealing with past experience, we may be on safe ground, we may also be on ground that in important respects is meaningless.

Just how meaningful past experience in this vital area will be for our present and future guidance, we simply don't know. We don't know because between the past and the future there rests the BOMB. Conceivably, the greater part of our experience with economic mobilization and the war economy may be significant for the months and

years immediately ahead. Conceivably also, very little of it will have value. Be this as it may, I will first take up economic mobilization and the war economy as we've experienced them in recent years, and then we'll move on to the far more vital issue: What role, if any, will they have in the future? What new problems and issues do we face in the new age of nuclear war? Despite the greater importance of these new problems and issues, there will be time only for referring to them briefly, but of course we will be considering these new issues and problems throughout our course during this year.

With these preliminary remarks, I turn now first to Economic Mobilization in National Security in past wars--specifically, World Wars I and II and the Korean War. Let's call this the conventional or traditional kind of economic mobilization. The concept of economic mobilization is essentially a very simple one. It is an adaptation of a military term which has been in use for a century or more. In its general meaning, to mobilize is to render mobile, to place in movement. In its military sense, as used especially in the 19th and early 20th centuries, to mobilize was to assemble and put in a state of readiness for active service in war--applying to any kind of military or naval unit and usually, of course, to reserve units.

Prior to 1914, military mobilization was a relatively simple matter. When a war crisis developed and the avoidance of war seemed impossible, mobilization notices were posted. The reservists put on their uniforms, took arms from their closets, and hurried to the assembly points. According usually to predetermined schedules, units were formed and moved to the designated points of duty in the field. Because of the limited duration and intensity of the fighting and the simplicity of the weapons used, these wars could be and were to a considerable extent fought with munitions on hand and stocked in arsenals and depots. The role of industry might be important, but it was not usually critical.

World War I, of course, changed all this--and it's easy to understand why. In the 20 or 30 years before 1914, the ground was laid for the mechanization of combat and supply based on mass production of: the breechloading rifle using the metallic cartridge; the machinegun; the rapid fire breechloading field gun; the autotruck and command car; and a practical aircraft. There were of course, important new weapons and equipment on the naval side, with the submarine perhaps the major innovation.

0072

Along with these new weapons and equipment, armies measured in millions of men were mobilized and placed in the field on fronts hundreds of miles long. The consumption of munitions and other supplies of all kinds was simply incredible and without precedent, especially was this true of ammunition of all kinds, but particularly for machineguns and field artillery.

Before the war was many months old, the belligerent powers were faced with supply crises which increased in number and seriousness. It became evident that the outcome of the war might well be determined largely by the ability to outproduce the enemy in munitions and other critical war material. Production assumed an urgency that it had never had in war before and industry became a critical and major component of the war effort. It was as a result of this exhausting experience that the concept of industrial mobilization was born.

Let's stop a moment and see just what is involved in the mobilization of industry. To go back to our definition of mobilize, it is "to place in movement, to place in a state of readiness for active service in war." The movement here of course is from a condition of producing normal civilian goods of peacetime to a condition of capability for turning out military supplies, equipment, and munitions of the kinds needed and in the amounts needed.

Obviously, this changeover of production from civilian to military goods is a very difficult, time consuming and costly business under the conditions of modern mass production. Many months of preparation are required for making any new product--designs to be prepared; specifications to be drawn; blueprints to be made; jigs, tools, fixtures, and gauges to be designed and made. If the production run justifies, special machine tools and equipment have to be designed and built.

In making any new product, unexpected difficulties are always met, production bugs develop, and weeks and even months of delay result. Costly and time consuming modifications have to be made. Now, what is under normal conditions with civilian products a slow, time consuming process is usually with military items a much slower and much more difficult business. Munitions and much military equipment will be unfamiliar to most manufacturers, frequently presenting novel design features and difficult production problems. Standards and specifications are much higher and held to much more rigidly with military goods than with civilian goods. Since usage is much harder

and reliability far more essential, tolerances are much closer. New and unfamiliar processes and equipment may be required for producing the military goods, and labor frequently has to be retrained in the techniques of the new process.

What does all this add up to? It adds up to many months of lead time before a plant even gets into production on many of the larger and more complicated items of military hardware. In World War I, on such items, anywhere from 12 to 20 months were required, starting at the blueprint and specification stage. In World War II, the situation was no better. While production equipment and techniques were vastly improved over those in World War I, the military hardware to be produced and had increased correspondingly in complexity and difficulty. In spite of all efforts and a variety of expedients, the changeover from civilian to military production, which is the hard core of industrial mobilization, still required for many critical items from a year to two years to get into anything approaching full-scale production.

Of course, industrial mobilization doesn't stop with plant conversion from civilian to military production. There has to be a great expansion of production all the way across the board to supply military production with its skyrocketing requirements for:

Raw materials: steel, copper, aluminum and other metals
and materials in many shapes, grades and
forms

New Equipment: such as critical machine tools

Fuels: such as coal, petroleum, gas and in power

Components: such as antifriction bearings, motors, castings,
and the like

Labor: skilled, semiskilled, unskilled

Soon new capacity is required for the production of many of these supporting materials, parts and components: new steel mills and blast furnaces, new oil wells and refineries, new powerplants. The construction of this new capacity puts a further squeeze on existing scarce supplies. Soon there is a general scramble to collect anything likely to be in short supply and a general rat race is on. Those of you who were stationed here in Washington during either the Korean War or World War II are familiar with the things described in a nutshell here.

307

These developments which get underway first in the industrial sector quickly spread to the entire economy. Transportation, shipping, agriculture, retail and wholesale distribution, all feel the effects of the industrial boom and the mounting shortages. A kind of chain reaction spreads shortages from one area to another, getting farther and farther removed from direct military production. In short, the entire economy becomes quickly involved and not simply manufacturing industry alone. Steps have to be taken to see that the economy as an integrated functioning whole is stabilized and coordinated. Industrial mobilization in short has to be supplemented and supported by economic mobilization.

Such, then, were industrial mobilization and economic mobilization as we experienced them in varying degrees in World War I, World War II, and the Korean War.

In summary, then, keep these points in mind:

1. To mobilize industry--industrial mobilization--is to place industry in a state of active readiness for military production.

2. Economic mobilization is the changeover--the complex, difficult, and necessarily slow changeover--from a peacetime to a war economy--a changeover essential to secure maximum military production.

This brings us to the next topic in our outline: The War Economy: Character and Operation.

To understand the war economy which has been mobilized in the manner I have indicated, we must start with the normal or peacetime economy. This peacetime economy is what in this country we like to call the free enterprise system. More precisely, it is the private enterprise economy.

Just what are the distinctive features of this private enterprise economy of ours? I shall mention only four of the more important ones:

1. Property is privately owned--in contrast with those nations which have varying degrees of socialism or communism, in which

a substantial amount of Government ownership of property is found. Vast as are the property holdings of the Federal Government, they are probably less than 10 percent of the total property in the United States.

2. In the second place, the private enterprise system is one in which the main driving forces are self-interest and profit seeking. The profit motive provides the dynamics of our system. It's everybody for himself with bankruptcy taking the hindmost.

3. The private enterprise system is one in which the basic decisions are made by private individuals and private business organizations and not by Government agencies and officials, except in certain limited areas. These basic decisions have to do with what goods and services shall be produced and consumed, in what amounts, and having what qualities and characteristics; at what prices these goods and services shall be sold and bought; to whom they shall be sold and from whom bought. All these decisions are being made daily--millions and indeed billions of them--by all of us, whether as producers, consumers, or middlemen.

4. Finally, in this private enterprise economy of ours the coordination or balancing of supply and demand for a million and one goods and services is provided by the more or less automatic operation of the market. When a goods or service is in short supply, that is unequal to the demand, we all know what happens. Prices tend upward; and producers take measures to increase output. If scarcity continues, new producers get into the act, and so on. If demand falls, the reverse takes place. This functioning of the market is basic to the system. It provides the balance, or, as economists say, the equilibrium essential to a healthy and orderly economy.

Now let's see how the war economy which is put into operation by the process of economic mobilization differs from the normal private enterprise economy of peacetime.

It is important to recognize, first of all, that in certain respects it does remain substantially unchanged. Private property, for example, still remains private, but the freedom of the owner to use this property is restricted in a number of ways, as we all remember from the last war. The pursuit of self-interest and profit continue as the main driving force of the economic system. True, restraints and restrictions are imposed upon this pursuit. Much higher taxes than normal are

0016

placed upon both individual incomes and corporate profits. There is much complaining about high profits and profiteering, not only by editors, politicians, and other public figures, but by the men in the armed services who gripe about the fantastic wages the boys are making in comfortable jobs on the homefront. Back in the early 1930's there were movements by veterans' groups and others for taking the profit out of war.

But the lesson of experience is clear: patriotism plays a vital role in any war effort, but it is no substitute for profit and self-interest in getting the tremendous production essential to meet the Nation's wartime requirements. "Don't attempt to take the profit out of war" was the plea of Bernard Baruch back in the 1930's, and we didn't. Let's take a quick look at corporate profits and at wages in World War II.

Average annual corporate profits, before taxes, 1939-1940, in round figures, eight billion dollars; the same, 1941-1945, 21.5 billion dollars--a 2-1/2-fold increase. But this increase was offset to some extent by a 40 percent rise in the level of wholesale prices. Yet allowing for higher prices and for the greatly increased corporate taxes, net profits still increased appreciably in this five-year period.

Now, a quick look at what happened to wages in these same years: average hourly wages, excluding overtime, in 1939 may be taken as 100. The figure goes up to 127 in 1942 and 152 in 1945, but these increases were offset by a 30 percent increase in the cost of living index in these same years.

While we keep private property private, with some qualifications, and while profit and self-interest are not only kept but given even more leeway, in other respects we have radical changes.

First, in a war economy the basic decisions are made, not by private individuals and business organizations; they are made by Government agencies and Government officials. They determine what is produced and what isn't, and how much, and in what order of priority. Government agencies determine what prices are charged and paid. They fix the level of rents, or profits, and of salaries and wages, and they make the decisions in a hundred and one related matters that affect the functions of the economic system. In other words, not businessmen, not wage earners and consumers, but

Government is in the driving seat of the economic system in a war economy. Businessmen and business organizations, workers and consumers still make decisions, but they are decisions made within the framework of policies established and high level decisions made by the Government.

Secondly, there is another major economic function which is taken over by the Government in a war economy. This is the vital function of stabilizing the economy. Inflation is a major threat to output, to efficiency, and to morale in a war economy. The market, as we have seen, serves as an automatic stabilizer in the peacetime economy. It keeps the system in a condition of equilibrium--that is it keeps supply and demand throughout the economy in reasonable balance although boom and depression periods are evidences of the fact that the market has decided limitations as a stabilizer.

In a war or defense emergency, this automatic stabilizer breaks down. It breaks down because, with virtually unlimited demand and limited supply, the market simply can't effect a balance, and Government has to step in and provide artificially the stability, the equilibrium that the system can't provide itself. A series of controls are employed for this purpose--price controls, credit controls, wage and rent controls, monetary and fiscal controls, materials controls, manpower controls, and so on.

I have said enough to illustrate a major fact about a war economy that needs to be hammered home: It is a planned economy, a controlled economy, a managed economy, with Government, the Federal Government, in charge.

This brings me to the final heading: The Impact of Nuclear War. Here is where we leave the fairly sure but more or less obsolescent experience of the past and take a careful look into the future. Note that I say "more or less obsolescent experience of the past." Here of course is the catch: We just don't know how useful, or how useless, this experience is.

We start of course with the BOMB. The bomb introduced uncertainties and confusion into every phase of national security planning and preparedness--foreign relations and foreign policies, including relations with our allies, with neutrals, and of course with the Soviet Bloc; military policy, planning and readiness measures; nonmilitary defense, especially civil defense policies and programs; and, of course, planning and readiness programs on the industrial and economic fronts.

We start with the bomb. But keep this important fact in mind, our difficulties didn't start with the first bombs that were exploded back in 1945. For four years we rode the gravy train, for we had a monopoly on the bomb. In 1949 came a rude shock--the Soviets exploded their first atomic weapon, and this was followed by regular tests of similar weapons. In 1953 a hydrogen bomb device was exploded followed in 1955 by a workable nuclear bomb.

Now, if today, in every aspect of national security plans and operations, things seem rather confused and confusing--in military defense, in civil defense, and in foreign policy alike--just keep in mind that we have had little more than five years to consider, weigh, and to adjust to the facts of life and death in the new nuclear age. It takes time--time measured not in months, but in years--for the implications of such a revolutionary development as nuclear weapons to sink in, and it takes time, even more time, to discover and to make the necessary adjustments. Let me give you several illustrations in the field of our special interest: The Economic Aspects of Security.

It wasn't until three years ago, 1953-1954, that in the final or mobilization unit of our course we faced up squarely to the facts of nuclear war. We did this by incorporating for the first time in the assumptions of the final student committee a major atomic strike on the United States. Were we slow on the uptake? Possibly so, but it is interesting to note that it wasn't until a year later that the Executive Branch of the Government as a whole faced squarely up to the same problem in Operation Alert 1955, and not until 1955 was bomb damage introduced into the official planning of the Joint Chiefs of Staff and the Office of Defense Mobilization.

Let's explore briefly--and it must be very briefly for all its importance--the implications of general nuclear warfare. At the present time the United States and the USSR each has enough nuclear weapons to wipe out--if successfully delivered--the major population and industrial centers and military installations of the other power. The prospect is clearly one of incredible destruction, loss of life, and suffering, of the disruption of the production and distribution of goods on a tremendous scale, of disorder and confusion in our society and in our Government at every level.

Let me give you the overall estimates of casualties and damage from last month's Operation Alert, 1956. This operation was a kind of nationwide war gaming in the nonmilitary defense field:

Targets hit: 69 cities
36 military installations
Total weight of bombs: 76 megatons

Casualties: (Following evacuation of the cities--in rounded figures)

Dead: 8.6 million
Injured: 9.4 million
Displaced: 11.8 million

At the end of 60 days: Dead will have risen to 15 million;
Injured will have fallen to 5.2 million

Primary damage to industrial capacity: 15 to 20 percent
destruction for most industries.

Loss of production: At the end of the first month: 70 percent
of Nation's industrial capacity; at the end of six months: dropped
to 50 percent.

Here, then, we have a preview of the possible dimensions of a nuclear war. What meaning does it have for economic mobilization and the war economy? One widely held view holds that nuclear weapons have reduced to obsolescence industrial and economic mobilization as methods of mobilizing the military resources of the Nation. In their traditional form, as we have seen, industrial and economic mobilization take time--many months of time. Yet, a sudden massive nuclear attack upon the major population and industrial centers of this country may wipe out the greater part of our productive capacity in a matter of days, if not hours, and the military phase of the war may be over in a matter of weeks, if not days.

Under such conditions, industrial and economic mobilization, as we have known them, requiring many months to crank up, obviously, will have little, if any, effect upon the outcome of the war. From this viewpoint, they would clearly seem to be obsolete. Since, in the event of a sudden, all-out nuclear attack, there will be no time to mobilize military and industrial resources in the traditional manner; it follows that such a nuclear war will have to be fought in the main, and perhaps entirely, with the forces and weapons in being. Consequently, for many months, in the various phases of defense planning--

0046
military, economic, nonmilitary defense--there has been a growing emphasis upon Mobilization Readiness--to use ODM's term--or Mobilized Readiness, a concept which some of us in the Industrial College believe more adequately meets the requirements of the situation.

Now, mobilized readiness, both military and nonmilitary, opens up so wide a field and so rapidly developing a field that I shall not attempt to do more than briefly refer to it here. The outstanding example of mobilized readiness in the military field is of course SAC, ready today to launch retaliatory nuclear attacks. In the field of industrial, economic and other forms of nonmilitary defense we have hardly made more than a beginning toward establishing a condition of mobilized readiness.

Here, obviously, is the most critical, most vital area of mobilization planning and preparations. Here we have the key civilian agencies of the Office of Defense Mobilization and the Federal Civil Defense Administration putting in long, hard, and often frustrating work. During the course of the next ten months, you will hear a great deal of this work in all its phases.

Let's get back to our old acquaintances: Economic Mobilization and the War Economy. At first thought, it seems that neither of them, either as concept or as actuality, has much of a future. However, don't write them off too quickly. So far as affecting the outcome of a general war beginning with massive nuclear strikes, economic mobilization may well have little or no importance for the reasons I have indicated. The military phase is likely to be over before economic mobilization has even gotten under way.

On the other hand, if general nuclear war is by some chance avoided and we have a recurrence of general wars of the World War II type or limited wars of the Korean or other types, then we would no doubt have the mobilization and operation of a war economy along somewhat similar lines to those of the last.

But, let's assume we do have a general all-out nuclear war begun by sudden massive atomic strikes. Let's grant that the outcome of the war may, for all practical purposes, be decided in the first few days or weeks. Consider the destruction, the ruin, the chaos which will exist in a large part of the country. We will be faced with catastrophe on a literally colossal scale. The problems of relief, rehabilitation,

reconstruction, and recovery will be tremendous. It may take literally years to effect full restoration of normal conditions. There seems not the slightest doubt that this disaster situation will demand and result in a mobilization of the American economy, and this mobilization, in all probability, will be far more drastic, far more sweeping and thoroughgoing than any economic mobilization of our past experience.

The problems of such a mobilization and the methods of dealing with them will doubtless differ in important respects from the mobilizations of the economy in previous wars. Yet the basic character of this mobilization will be the same as the economic mobilization of World Wars I and II, namely, a movement or transition carried out as rapidly as possible from a more or less normal peacetime economy to what can hardly be called anything else than a disaster economy.

Undoubtedly, this disaster economy will differ in many ways from the war economies that this country has known in the past. But, unless all semblance of an organized national society is destroyed and the people return to the localized subsistence societies of the early frontier period, this disaster economy will almost inevitably be an economy planned, controlled and managed by Government, and the private enterprise economy as we have known it may belong only to history.

Therefore, while the most urgent problems by far faced today in respect to the economics of national security fall within the area of mobilized readiness, the problems and conditions of economic mobilization and the management of a war economy are likely to be with us for a long time to come.

By way of review and summary, let me run briefly through the leading points in this discussion of "The Economics of National Security."

1. The military strength of the Nation rests in large degree on the productive forces of the national economy.

This is not to suggest that war is simply a matter of economics. Far from it. Yet so tremendous and so complex are the supply requirements of modern war that only nations which possess great productive resources and can mobilize them effectively can hope to exercise great military power.

2. The mobilization and management of the national economy were indispensable to victory in World Wars I and II.

The most critical problems were those of making the changeover from civilian production under the relatively free enterprise system of peacetime to military production under the controlled and managed war economy. In both wars, this changeover took many months--approximately two years. Our allies, in both wars, engaged in what was, in effect, a holding operation while we got our war production machine slowly under way. In the next general war, we'll probably be in there pitching from the first outbreak of hostilities. This is the prospect that has haunted our mobilization planners during the last six or seven years.

3. National security today absorbs approximately one-tenth of the total output of the Nation and accounts for nine-tenths of Federal expenditures.

The implications of these facts for both the military establishment and the military profession are very great as you will discover in many different ways during the next ten months, and these implications are political as well as economic.

4. Victory in a general nuclear war will depend primarily upon the condition of mobilized readiness of both military forces and of nonmilitary defense.

For a war which takes off with massive nuclear strikes, the emphasis in preparedness must inevitably be upon adequate forces in being. Economic mobilization in its traditional form will have no meaning in a war in which the defensive blows are struck in the first few days or weeks.

5. The tasks of recovery, rehabilitation and restoration following massive nuclear attack will require the mobilization and management of the economy by the Government.

Both in scale and in complexity, these tasks will make those of World War II mobilization seem like small change. We will have not so much a war economy as a disaster economy, and further prosecution of the war may have to be subordinated to economic and social recovery.

6. Finally, the close interdependence of national security and the national economy impose grave economic responsibilities upon military and civilians alike in the Department of Defense.

Under these conditions, then, it is vital that all responsible members of the military establishment, military and civilians, have something more than the competence required by their specific duties.

They must have at least a general knowledge and broad understanding of the conditions, the problems, and the requirements of the economic system and of Government in relation to national security. In an age when the conduct and outcome of wars depends largely on economic and governmental factors, the military profession must be at least literate in these areas.

More specifically, they must have a clear understanding of the tremendous impact of supply operations on a multibillion dollar scale upon both the peacetime and wartime functioning of the economic system as well as upon Government and upon the morale of the Nation.

In your ten months at the Industrial College, therefore, your attention will be focused upon the many and varied aspects--administrative, psychological, and political--of making ready, mobilizing and managing the American economy for national security.

Thank you.

QUESTION: What is meant by national wealth? That figure was used.

DR. HUNTER: National wealth is simply the value expressed in dollars of all the property in the United States, real and personal, fixed and moveable, private and public. It includes all tangible property, I believe, with the exception of minerals in the ground. It is not a very widely used term compared with the terms national income and gross national product.

QUESTION: You mentioned several factories and facilities owned by the Services. Is that a measure of our mobility readiness or are other factories held more or less on a standby basis that are also ready to go into rapid service in case of mobilization?

DR. HUNTER: I am not sure I can answer your question very satisfactorily. Perhaps someone from ODM or from DOD can supply the information. I don't know how many of these facilities are in operation and how many are in standby condition. I believe a good many of them are in standby condition. We found back in the Korean affair that some of the standby facilities and equipment could not be gotten into use very readily.

GENERAL CALHOUN: Practically all the Air Force aircraft plants are in production and are contractor operated. There are very few in standby status.

DR. HUNTER: Of course, we have stockpiles of critical and strategic raw or semiprocessed material on which so much emphasis was placed following the end of World War II in the mobilization planning programs. You have heard Mr. Elliott this morning give his comment on the usefulness of our stockpiles. Obviously, these materials are better in the stockpile than in veins of ore down in the ground, but in terms of in a general nuclear war, they will have limited value except for rehabilitation and restoration work.

QUESTION: In connection with mobilized readiness, our required reading mentioned the term "industrial readiness," the capability to turn out additional material in a matter of a few weeks or a few months after the onslaught of war. I would like to see how this industrial readiness is set up. Is this what is left? Is the industrial mobilization program the key element? Is it set up as a crash program in addition to the industrial mobilization program?

DR. HUNTER: I cannot answer that question except to this very limited degree. The Air Force has an industrial readiness planning program. How far the Air Force has gotten with that, I do not know. It is planned to have some of the facilities producing certain key components in such a condition that within a few days immediately after an atomic strike it would be possible to turn out some critically needs components quickly. How far this has been carried, I would have to pass on to someone else to answer. Perhaps someone here from the Air Force can give us the story on that. If the Army and Navy have comparable programs, I am not aware of them.

COLONEL BARRETT: Essentially this has been a process of attempting to narrow the post-attack, adjust your requirements to a few limited essentials because it is a general recognition of what the

impact of what this sort of attack might be. The essential factors of industrial mobilization, you will be dealing with later on in the year. To go into its implications and how far it has been effected is more than we can handle this morning. But this is an effort at narrowing and pinpointing certain vital and essential things that would have to be produced to maintain even a brief military operation.

QUESTION: Dr. Hunter, would not the victor power in a nuclear war have to mobilize to complete his victory? In other words, it seems to me that the thing your battery took may be where one power becomes the victor, but would not the victor have to mobilize further with police just to go in and complete the victory?

DR. HUNTER: That would seem to be the case. We found in World War II, we couldn't go off and let the powers stew in their own juice, handle their own problems of recovery. It would seem to be the case that the United States--assuming that we were the victor in this situation--would have a primary responsibility to get her own economy and society back in functioning order and then to rebuild, to make a beginning, in rebuilding the economies and societies of other nations.

COLONEL BARRETT: Some people express that with the point of view that if you did not have the capacity to mobilize for recovery and rehabilitation, you might win a war, but you might wind up with Brazil, for example, being the paramount power of the Western Hemisphere.

QUESTION: In your summary, Dr. Hunter, you stated that in a nuclear war it would be left up to the Government to rehabilitate the economy, and so forth, and in that do you assume that Government might be destroyed proportionately to industry? Just how would you include that?

DR. HUNTER: One can work out one's own assumptions as to the extent to which any political or social organization or government will survive and in what condition. In general it may be assumed that the Federal Government and many large municipal governments will be badly disrupted. I don't know that there are many state capitols that would constitute great prizes for an enemy atomic strike. The problem is getting the Federal Government back on its feet will be a critical one.

One of the major objectives of Operation Alert was to test our ability to improvise governmentally in such an emergency. Operation Alert was an exercise trying to discover just what the nature of the problems would be of getting the Federal Government on its feet.

COLONEL BARRETT: I think Louie's point is that the normal method of control of an operating service might be destroyed and you would have to set up some recontrol through some Government organization, a planned and controlled stabilizing mechanism.

QUESTION: We are currently spending about 10 percent of our gross national product in maintaining national security. That probably in large part is this readiness state which you have described. Have theories been evolved as to whether we can sustain this 10 percent or whether we can go to a higher limit over a sustained period in the event of no actual conflict but we continue this war of nerves that we are now in?

DR. HUNTER: There are different schools of opinion on that particular issue. There is the budget balancing school that feels we must keep expenditures down to the lowest possible point to avoid serious strain on the national economy. At the other extreme are the views of men, for example, like Leon Keyserling, who spoke from this platform last May, who argues that the economy itself can take it if the public will support the program, that the economy can take it, having an enormous capacity for expansion.

To give an example, take the Korean War beginning in June-July 1950. Did the Korean War place so tremendous a load upon the economy as to weaken it? From all the evidence, the demands created by the Korean War for all military supplies and equipment, together with the tremendous additional program of building up the industrial mobilization base, were met without real difficulty. The total military expenditures was just about equalled by the increase in the gross national product of the period of the war. In terms of the demands of the emergency, the economy arose magnificently to the occasion.

Back in World War II, the same thing happened. During the course of World War II, gross national product in real terms--not simply in inflated dollar values but in real terms--increased about one-half. In these two wars, of course, the ZI was not affected by attacks upon the United States, which may be assumed as probable in another general war.

QUESTION: In the case of a computed index such as gross national product, there must be disagreement among competent economists as to the accuracy. Could you give us a figure for the percentage spread of accuracy?

DR. HUNTER: I won't attempt to do that at this time.

COLONEL BARRETT: GNP in the concept of these other measures of national economy will be discussed in detail with you and the concept behind them by Dr. Kress.

QUESTION: I would like to ask a question that might more appropriately be addressed to the previous speaker. I would like to ask a question on time, as to whether or not time is on the side of the Russians or on the side of the free world.

DR. HUNTER: We will hear a good many Russian experts on that question of the difference in the rate of growth of the two countries. I am too little informed on that subject to discuss it competently. The rate of economic growth in Russia is much more rapid than in the United States. That doesn't necessarily reflect differences in the capabilities of the two economic systems. The USSR are in an earlier stage of their growth and growth can proceed much more rapidly than at a more advanced stage of development.

GENERAL HOLLIS: I am breaching a custom of the faculty who like to reserve this question period for the students, but I think this is a very interesting morning. The only trouble is that the questions have tried to resolve the 10 months in the first lecture.

Exactly what you have been talking about, you will still be talking about eight months from now, and there will be divergences of view, and it will all be interesting as well. But you won't have any explicit answers. For example, Captain Conn asked a question about Louie's presumption about how much Government would be left or how effective it would be after attack under these disaster conditions, and there will be a wide divergence of view here. You are all going to have your own convictions. Some of them will be pessimistic and some will be more optimistic. You will hear at great length from experts on that particular question of Captain Conn.

Both General Calhoun and Colonel Barrett, at my demand, spent the full time out with Operation Alert so we would have authoritative

people right on our own faculty to tell you what happened there. But of course the success with which that will carry off when the chips are down is all speculative at this point.

I want to say that I think Colonel Dawley put better than I put in my orientation talk the basic thesis of why we are here. If we are going to accept the holocaust premise--there ain't goin' to be nothin' left, we are just going to be a bunch of moldering radioactive dust, and we all might as well take off our uniforms and go spend what we've got in the bank for a new Buick and go to Virginia or something.

The only reason we are here is because there must be something better than totally wiping out everything. If we get that frightened and terrified, we've had it.

The questions were interesting. What Louie Hunter has done this morning is to give you a preview or a contents sheet of the volume here, and I think he did very well in attempting to answer the whole ten-month course in a 15-minute question period.

(7 Sept 1956--250)K/dcp