

MANPOWER REQUIREMENTS OF THE CIVILIAN ECONOMY

18 October 1955

CONTENTS

	<u>Page</u>
INTRODUCTION--Captain G. W. Lautrup, USN, Member of the Faculty, ICAF.....	1
SPEAKER--Dr. Louis Levine, Assistant Director, Bureau of Employment Security, Department of Labor....	1
GENERAL DISCUSSION.....	20

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CAPTAIN LAUTRUP: In our first lecture in the Manpower Branch we covered military manpower requirements. This morning we are going to listen to a lecture on the manpower requirements of the civilian economy.

Our speaker, Dr. Levine, has spent many years in dealing with manpower problems, as you will see from his biography. He has from early this year been Assistant Director of the Bureau of Employment Security in the Department of Labor.

It is a pleasure to welcome you back to this platform and to introduce you to this year's class.

Dr. Levine.

DR. LEVINE: General Hollis, General Calhoun, Captain Lautrup: I feel as if I am an old timer now, coming back to a class reunion, when I come to the Industrial College of the Armed Forces, because I have had the pleasure and the privilege of being here on a number of occasions in previous years. Each time I have been assigned the subject of civilian manpower requirements for mobilization; and I have wondered when the stage would be reached that my speech would become so canned that you could put it in reproduced form and dispense with me. So I decided that this year, in order to assure myself that I might appear in future years, I would cast aside all of my previous speeches, wouldn't even look at them, and see what I might say afresh in the field of civilian manpower requirements for mobilization.

I might say that my concern about participating in this Industrial College is because I feel that the mission which this college has, and the concern that the Military Establishment must have, with all manpower, both civilian and military, is of such great importance that we in the Department of Labor really have a stake in what you people are doing. So it isn't just a matter of charitable and philanthropic impulse which brings me here. I really have a somewhat selfish motive in mind. I hope you will go away from this college with a better understanding of the importance and the implications of human resources, manpower resources, in any mobilization planning in the event of national emergency.

Let me start off by saying this: It has only been some ten years since the close of World War II, and yet I think, as time evolves and as we look back, we will discover that we have really spanned not just ten years-- though that may be chronologically so--but that what we have done is to close one era or one age and arrive at the threshold of a new one. And we don't really know all of the implications of this new age upon which we are now entering. This is just as true with respect to manpower as it is with respect to industrial plant facilities, techniques of production, sources of energy and power, and so on down the line.

What I am trying to say is this: Although a short period of time may seem to have elapsed since last we had a very real test of manpower needs in a wartime situation, much of what we experienced in that period, World War II, is really a point of departure and not a guide for what may confront us with respect to manpower in the event of another wide-scale emergency.

You must remember that manpower in its ultimate limits is pretty well set. The outermost framework of manpower is the population. It is obvious to all of us, I know, that not all of the population can contribute or actually engage in the economic activities of the Nation and certainly not in a situation involving a national emergency.

Obviously we have to remove from our consideration of manpower resources the infants, the youths, and the senior citizens of the Nation. We certainly must remove those who are hospitalized and in institutions. We must remove those who cannot participate in the labor market for a variety of reasons. They may have household responsibilities, caring for children and so on. So we finally come to that portion of the population which we call the labor force. And at all times the labor force really represents the supply of labor that we have to meet the manpower requirements for mobilization.

Now, while there are fixed outer limits to the population, there are no rigidly fixed outer limits to the labor force. The labor force is highly dynamic, constantly shifting, and can be adjusted to meet differing kinds of needs and differing kinds of situations.

Within the labor force, there are two segments. One is the employed worker group, and the other is the unemployed. Obviously, the extent to which the economy is operating at a high level will

indicate the proportion of the total labor force which is employed. For example, at the present time, when we are enjoying as high a level of economic activity as we have ever enjoyed in this country, we find ourselves with a total labor force of just under 70 million. This includes both civilians and the Armed Forces.

Within the labor force of just under 70 million, approximately 67 million, roughly, is civilian and approximately 3 million is in the Armed Forces. And within the civilian group, we find only about 2.1 million unemployed. This means that about 97 percent of our civilian work force is now at work. Obviously, under those circumstances the unemployed do not represent a significant source of labor supply for meeting any expanded civilian manpower requirements under mobilization.

What I am trying to say, then, is that the major source of supply which we have to meet mobilization requirements so far as manpower is concerned lies in our employed population, in our employed work force. It makes, of course, a great deal of difference where these people are employed, in what industries and in what occupations, and under what circumstances. But these are the people who are from day to day engaging in work, using their skills, using their know-how; and they represent the most ready resource to which we must turn to meet both civilian and military manpower requirements in the event of emergency.

Now, I said a moment or two ago that the labor force is not fixed, that it can and does shift, that it is expansible, and can also contract. Let us go into that for a moment or two.

We have a great many people who for various reasons are not in the labor market, not in the work force; but who under given circumstances can return to the work force or enter the work force for the first time. The major source of supply in that category in sheer numbers is women. The woman who today is concerned with taking care of the household is not regarded as a part of the labor force. She is not engaged in gainful employment. She will tell you she has plenty of employment, but probably she will agree that it is not gainful. She is not a part of the labor force.

Under certain circumstances arrangements can be quickly effected for her to participate in the work force. And indeed, under rapidly

expanding labor requirements, where new industries and new plants are emerging, a great number of women enter the work force for the first time, or reenter it, having perhaps worked at one time and left to become married and raise children.

There are a great many other people besides women who can add to the expansion of the employed work force, as, for example, certain categories of people whom we sometimes call marginal workers, because we are certainly not fully utilizing them at the present time. Many of these are found in the minority groups. There are considerable numbers of Negroes, particularly, who are not at the present time participating in the work force at all or in skills or occupations which they would have opportunity to use or engage in under the tight labor market conditions of mobilization.

This is also true with respect to physically handicapped people. As you know, the Government for these many years has been putting on drives year after year to create employer awareness of the fact that a handicapped person can still participate in the labor market and make a very real economic contribution. No one is completely handicapped for all jobs. He may be handicapped for one job, but be perfectly competent at another.

Under wartime conditions, when a stringent labor market appears, hiring specifications are loosened very, very quickly. All of those specifications that employers might previously have had with regard to height, weight, training, experience, education, color of eyes, color of hair, disappear with tight labor market conditions and expanding production requirements. As a result, so do the specifications that limit the participation of physically handicapped people.

And then, of course, we have a considerable number of people who have withdrawn from the labor market. Older workers particularly, either voluntarily or involuntarily, have withdrawn from the labor market. They have retired or found that they cannot find a job. Under wartime conditions these people become a very important source of labor supply. They come forth to meet the growing labor requirements, manpower requirements, for mobilization.

So there is vast expansibility in terms of the numbers in the work force. And yet, after all is said and done, there comes a limit, indefinite as it may be, beyond which you cannot expand the work force. Under certain kinds of conditions, then, manpower can become the ultimate resource that holds the key to the successful prosecution, for instance, of a general-scale war. It wouldn't be in a limited-scale war, but it would be in a war on a wide front.

So much with respect to the size and fluctuation of this work force. But let me say that, while that was the experience in World War II, I don't know whether that will necessarily be the experience in any future emergency. I said a few moments ago that I thought we had entered on the threshold of a new age, a new era and that it has tremendously important manpower implications, as it has for all other phases of the economy and for national mobilization.

Since the emergence of nuclear energy as a source of power, originally recognized as an explosive and as a strategic military weapon, it has already moved into civilian and peacetime life, and undoubtedly will move very rapidly into the whole civilian economy. This no doubt will have many important implications--for shifts of industries, for shifts of plants. It may bring with it shifts of people. But in the short-time interim there will be no doubt transitional maladjustments; and it will make a great deal of difference whether a national emergency hits us while we are "maladjusted" or whether we have completed some of these adjustments. And these adjustments will continue over a very considerable period of time.

There are whole sections of the world which up to now have not been able to participate in any high-scale type of economy which with nuclear energy and atomic reactors can participate just as well as those countries which have been fortunate in having natural resources such as coal and oil, gas, waterpower, and so on. That is a factor that must be taken into account, it seems to me, in any appraisal of the manpower situation and the manpower requirements of the future as they may bear on mobilization.

Already there have come out of this field of atomic energy certain developments that have been translated into industry. Between atomic energy and what has happened in the electronics industry, electronic gadgets of all kinds, we are now in a so-called new age--some people will argue whether it is really new or just a change of pace, a change

of implications--in what we call automation in industry, where machines are replacing men. Some people say machines are replacing men so that in this "do it yourself" age, men can do the work of machines at home. That may be so.

The fact is, however, that in our present industry automation is not moving at such a tremendous pace that it really affects the economy. But the evidences are that the pace will quicken. Machines are taking over all sorts of processes and types of responsibility, almost to the field of judgment and well into the field of memory, which formerly were regarded as human responsibilities rather than the responsibilities of machines.

This, of course, means a considerable change in the character of the work force that will be required in these plants, both as to numbers and as to kinds of workers. We undoubtedly will lay less and less emphasis on the matter of brawn and unskilled workers, and more and more emphasis on technical know-how. By technical know-how I mean not only in the professions, but in the sub-professions. I want to spend a few minutes on that a little later in my talk.

So I think this matter of automation, which in turn will mean shifts in the volume and kinds of workers, which will mean shifts of industries and in the location of plants, will have an important bearing on manpower, on the manpower requirements which will confront us in an emergency.

I have made only brief reference to the electronics industry. I don't know how many of us realize the tremendous importance which the electronics industry has gained in our total economy, not only in output and in sales, but in numbers employed. What was originally an industry that seemed to be geared primarily to military products and strategic warfare has already moved very far into civilian life and is affecting civilian markets in every way. Here again is a development which has important implications for manpower requirements, and different kinds of manpower requirements than those which we had some ten or twenty or twenty-five years ago. And all of these will have implications for any future national emergency.

Now, when you think about this new age, it seems to me that we have to place a tremendous emphasis, on the importance of the scientist and the engineer. But we have a feeling that we have completely underemphasized and do not realize the importance, the key importance, of the production skill in the craftsman, who must support the work of the scientist and the engineer.

00731

When we say "scientist and engineer" this is not just a pat phrase. There is reason for distinguishing between those two professions. The scientist has responsibility basically for working in fundamental research, which may have military or may have civilian implications. But that is not his concern. He is working in fundamental physics, in fundamental chemistry, in pure research, with mathematics--all along the line. The developments that come out of his creativeness must then be translated into applied research and production; and in that application stage the engineer comes in.

We have seen this transition now in a number of instances in these fields that I have referred to earlier--the work of the scientist being translated over into the work of the engineer. From the work of the engineer comes this production. And production turns on these key skills of production craft, the more highly skilled workers.

So it is quite possible that the key to our future in manpower requirements for both civilian and military needs will lie not just in the scientist and the engineer, important as they are and will continue to be, but in the electronics technician, just to take one person, one type of occupation, who is not quite an engineer, who is not a scientist, but who holds the key to electronics production, because on his employment and his technical know-how will depend the employment and the production in the entire industry.

So you find it in the metalworking industries, those traditional industries of the past--the pattern maker, the tool and diemaker, the die setter, the lens grinder. These are key occupations in their industry. The numbers involved are not great, but without those people the employment of the semiskilled workers and the unskilled workers, and the production of the plant cannot go forward.

I have a feeling that we have not given enough attention to the sub-professional occupations, although we have given a great deal of attention to the matter of scientists and engineers. This may call for some reexamination of the whole system by which people acquire skills in this country.

Up to now, I have in the main talked about numbers of workers and sources of supply. Only in the last few minutes have I gotten into the question of the composition of the work force, the skills of the work force. And yet the key to our ability to meet manpower requirements, both military and civilian, for mobilization purposes, will lie in the composition, in the skill, and the know-how of our people.

We are not competing with Soviet Russia or with China or with the satellite countries in terms of numbers of people that are engaged in work. Our competition lies in the technical ability and know-how of our work force, the capacity to out-produce man for man, the capacity to work with an advanced technology. And to work with an advanced technology means that we have to give a great deal more attention to the matter of how the people in our work force acquire skills.

If you stop to think about it, the labor market in this country-- and it is true of all democratic countries, all free labor markets-- is a pretty haphazard market. People acquire skills in an informal fashion, by and large. Once you get below the university level, in each of these production skills, they acquire them in a very informal fashion. A man will get a job in some occupation. He will work there for some period of time. Then he will move on to another job. Probably in the process of moving to the other job he tells his new prospective employer that he knows more than he really knows. He has learned some things in the last plant by watching some others do the work. So he gets a chance to do it. He works at that for a while, acquires some skill, and then moves on into another occupation.

This is aimless. It is haphazard. If he is lucky and he moves along the right occupational lines, in the course of years he will acquire skill and know-how and become a really competent skilled craftsman. But sometimes he doesn't make the right guesses. He goes up a lot of blind alleys, either in industry or occupation. He has made several false starts before he finally lands in the niche, in the occupation, in which he is qualified.

That is in the main the way in which most people acquire skills in production, in industry. We have apprentice courses, it is true; but those apprentice courses, formal apprentice training programs, in the main turn out only something like thirty or forty thousand people a year. We have a total of skilled workers, what I would regard as skilled workers, in this country of about nine million. It is amazing. Nine million people have key skills out of a total population of 160 million.

Obviously, the apprenticeship training programs don't provide even for the turn-over, the deaths, and the retirements, in that nine million--those thirty or forty thousand a year. So most of the skills are required informally and haphazardly in the functioning of the labor

market. It is high time that we reexamined whether there are better ways to assure that people will acquire the skills that are necessary for the manpower requirements, civilian and military, under mobilization.

Let me say that, although my talk is about civilian manpower requirements, there is no dividing line between civilian and military manpower requirements. The Army today is in competition with the civilian labor market for its electronics technicians. Some of that is responsible for your shortage of electronics technicians in the Armed Forces. What do you find when a fellow has completed his term of service? Only one percent reenlist, because the competition from the civilian sector of the economy, the job opportunities offered to him there, make it undesirable for him to continue in the Armed Forces. There is no dividing line between civilian and military manpower really. It all comes from a single pool. The civilian and military sectors are in competition for that pool.

This is true, as I have said, in many phases of mobilization needs, but particularly so in manpower. Therefore it seems to me that we ought to reexamine the ways in which our people acquire skills and know-how. What are the institutions that really contribute to an effective production, a skilled production, of skilled persons in our economy?

Well, I think you have really to start with the home. The home is extremely important as an institution in the earliest years of life. The schools are another. We haven't begun to recognize the tremendous contribution which the schools must make to enable us to meet manpower requirements under mobilization.

You in the Armed Forces who are concerned with military manpower know full well that you have quite different kinds of manpower coming out of some sections of the country, where the school facilities and the education have been inadequate, as against some other sections of the country where they have been adequate. Personnel in the Armed Forces differ widely in their ability to undergo training depending on the section of the country they come from, which in turn reflects the schooling they have had. It is high time that we recognize that more adequate schooling, not only in the elementary but particularly in the secondary schools, in opportunity to engage in university and college training, is becoming important, more important than ever before.

In this age the question is whether there must always be four or five years of professional training after high school before one can effectively participate in the work force. It may well be that we will want to reexamine the structure of our school system and maybe have two years of post-high school for such as these electronics technicians, who are not quite engineers or scientists, but who are key people. In other words, we may want to have more technical schools in between the long-established schools that we already have.

Then a third institution that has emerged in recent years, and that is likely to continue with us for a long time, which is probably going to be one of the most important institutions in the acquisition of skills to meet manpower requirements for mobilization, is service in the Armed Forces. This is becoming a way of life for at least two years for most of the males in a certain age group. And what they acquire in those two years will have a tremendous bearing on the patterns that they follow in future years when they return to civil work life.

Again I say this with some trepidation, I know I am among military people when I say that this haphazard, catch-as-catch-can practice that may have existed in previous years with regard to personnel in the Armed Forces can no longer be carried on. There is too much at stake. Much more needs to be known about the qualifications and the aptitudes and the abilities of the personnel being drawn into the Armed Forces and about channeling them into the kinds of duties and assignments that will build up those abilities and aptitudes and make them better qualified to participate in civilian life or for military purposes in the event of future mobilization. In this again, I am glad to say, there has been a lot of progress made within recent years in the Armed Forces; but much more no doubt needs to be done.

Finally comes the responsibility of industry. I think industry has a responsibility to see to it that more skill is acquired through formal training, which now is a very small part of its activity, rather than rely on the job-shifting and job-hunting process. This is a kind of responsibility which industry frankly has not fully recognized in its activities today--the responsibility for the training of manpower.

I don't know the answer to this problem. It is one of the most difficult ones that we face in the manpower field, because manpower, unlike any other economic resource, cannot be stockpiled. You cannot train individuals for higher skills and stockpile those skills. Rust and

obsolescence develop quickly among people who do not use their skills. If you give them ability to work at higher skills and don't let them employ those skills, they are the most unhappy people in the world. They are poor producers even at their previous jobs. So there is a very real problem of how you produce capacity in an individual to work at a higher skill than you can immediately use him at.

On top of that, in a free enterprise society, and in an economy where industry must necessarily gauge its activity and plan its activity on the basis of the ledger sheet, on its profits and losses, industry is not going to undertake training of manpower when it does not immediately require those skills in its normal market, on the theory that mobilization might require them, or that this might be in the best interest of national security some years hence.

They might undertake it if the Government would subsidize such things. I am not sure that is necessary. I am beginning to think that perhaps there are a variety of ways in which manpower requirements can be undertaken without all of this formalization of subsidized training programs.

I think, for example, the problem of how to deal with our middle-aged and older workers is becoming increasingly important. As you know the population of the country has been expanding rapidly, but it has been expanding unevenly. The two biggest sectors, the most rapidly expanding sectors, have been in the 0-19 year category and in the over 65 category.

The 65 and older, and the 0-19 are by and large nonproductive categories of the population. In other words, a smaller and smaller proportion of our population and work force has to provide for the maintenance of a larger and larger proportion of the population which is non-productive under existing circumstances in the labor market.

It seems to me that under these circumstances we will have to re-examine what we are doing by way of retaining skills and know-how in people who for some reason, when they reach the age of 45 become questionable assets in the labor market. There is no magic in the age 45. Indeed, one of the big problems we face in manpower today is that our doctors and our scientists have added to the length of life of people on this earth. In 1900 when a male child was born, he could expect to live to be age 46 on the average. Today he can expect to live to age 66 on the average. In the case of a female born in 1900, she could expect to live to about age 48. Born today, females can expect to live to about age 72.

These gains have come largely through the medical scientists in control over infant mortality and childhood diseases. The recent wonder drugs, miracle drugs, were dealing with middle age and older age diseases. They are only just coming into play. They don't even yet show up in the statistics.

In the second place, most of these people to whose lives the scientists have added are past the accepted age of participation in the work force. In fact, we seem to be slipping there. We are scrapping people at the very point where they reach some of their best skills, their best know-hows. The problem of how to bring into proper synchronization scientific advances in the medical field and social science thinking, if you will, in the labor market, on the part of employers is one of the very real problems we have.

It may mean that we will have to reexamine our adult educational program and our program of the transition from one occupation to another in certain age categories, and help industry make those transitions for the workers. That would be one important source of skilled workers.

Another important source of skill and know-how, that I think we can exploit more fully, is hobbies and avocations. The kid that works around the machines and contraptions and gadgets, tears them apart and tries to put them together, is the kid that is going to have these skills and abilities that we need so badly in the emerging economy. This is true of the kid who works around with model trains, airplanes hot rod cars, and similar things. We haven't capitalized enough on those and channeled them into education and industry, where they can contribute to the work force.

Now, I have said something about the importance of skills in addition to the numbers--though I think the numbers illustrate the importance--in meeting manpower requirements for mobilization. Let me say a few other things about these manpower resources and the labor supply that must be developed to meet them.

Manpower requirements can also be rigid. They can also be artificial. They too are subject to considerable adjustment and revision. When the aircraft industry got started on a large scale on the west coast, you couldn't have found more than a handful of the highest-skilled aircraft technicians and mechanics on the west coast. When the shipbuilding

industry on the west coast was revived during World War II after some twenty years of obsolescence and decay, there were only a handful of shipfitters and shipwrights at work in the economy. Yet in the course of some few years we had thousands and thousands of them. We didn't have real shipwrights or shipfitters. We had people who could perform one task or another that made up these occupations.

In other words, we diluted the occupation. We broke down the occupation to its subskills, and used a lot of people with subskills. That was the way we built our camps and cantonments. We didn't have all-round carpenters in the southwest to build the camps and cantonments in Texas. We had jackleg carpenters--the guy who could follow a line on a board with a saw if somebody would draw the line. So we had a carpenter draw the line for him, and this jackleg carpenter would come along and do the work. We can break our job requirements down. That is one way.

We also find that requirements necessarily change. The hiring specifications change as the labor market tightens. It was a joke in World War II, but also a reality, that at one stage, when our manpower shortage had really begun to pinch very strongly the hiring specification that we in the Employment Service of the War Manpower Commission got from employers: "If the guy comes in under his own locomotion and if he breathes and the body is warm, we will take him." The same employer a few years before would have given specifications like this: He would have talked about so many years of education, so many years of training and experience, a certain height and even a certain color of eyes depending on the conditions of the labor market.

Our hiring specifications can be modified--and to the extent they are modified we can meet the manpower requirements more easily--in a variety of ways. We can shorten the time of training. We can speed up training under wartime conditions. The notion that a man must have four years of apprentice training before he can be fully qualified to engage in an occupation goes by the board under pressure. He may not be quite the kind of person we would like to have, with all the skills and know-how. But we find very often that industry does not require all this special know-how all the time. It requires that only at certain times, and lesser skills and know-hows to support that particular high grade skill.

Then, of course, there is an important adjustment that takes place in the hours of work. By adding to the hours of work, and by

adding to the shifts in employment, we can expand our capacity to produce to meet the requirements to support the military forces under mobilization conditions. These have their limitations too. You can easily staff the first shift. You will have a greater difficulty staffing the second shift. We never succeeded in completely staffing the third shift. Why? People just don't want such work. I am talking now about a normal free labor market, in which we rely on indirect methods to get people into the kinds of work in which we would like them to engage for the purposes of prosecuting a war.

This is also true with respect to hours of work. Sure you can expand from forty to forty-one--which is where we are right now in our economy in manufacturing. The average is about forty-one hours a week. That means paying a premium on the average for over forty hours--you could expand to forty-five. You can expand to forty-eight, as we did in World War II. But it has been demonstrated that when you get much beyond that, you begin to have some pretty bad factors. Absenteeism rises. Labor turn-over rises. Production begins to fall off. Fatigue takes its toll. So there is a limit to how much we can expand the hours of work. Expanding the hours of work, however, is another way in which we can meet manpower requirements.

Now, these are all facets of meeting manpower requirements--in terms of numbers, skills, and adjustments in hiring specifications, hours of work, and shifts. Thus far I have talked as if we have one vast labor market in the United States. That is not true. We do not have a single labor market in the United States. With very few exceptions--perhaps for a few engineers, scientists, and a few construction occupations the labor market may be national--by and large we have thousands of individual local labor markets.

It is very important to bear in mind that, although the national balance sheet of statistics on manpower may show that we have a labor supply that is equal or sufficient to meet the labor requirements, it may be very misleading. While the total national balance sheet may appear satisfactory, we may discover that we have a surplus of workers relative to job opportunities or manpower requirements in New England, and we may have a tremendous shortage of labor supply with respect to the manpower requirements in the southwest or on the west coast. This is really the kind of situation we have at the moment.

This means, therefore, that in the final analysis, the manpower supply and the manpower requirements must be brought into balance in the local labor market where the people live and seek work, and where the job opportunities are because the plants are there and the equipment is there.

This situation led to the evolution of a principle in World War II, which we still recognize and which has important implications, that insofar as the Government expands its production needs for the prosecution of a war and therefore expands the manpower requirements, it should put the work where the workers are, rather than hope that the workers will go to where it puts the work.

We are inclined to casually assume that our people are highly mobile. And on a relative basis they are. I am talking now about geographic mobility for the moment. As compared with the European worker or the worker in Asia, our workers are highly mobile. They have their own means of transportation, by which they do move around.

In the final analysis, however, geographic mobility among American workers is also limited. Our workers are human beings. You never have the freedom of movement with them that you have with all other resources, because human beings and economic resources are interwoven. You don't shift labor resources without affecting human beings. This is a key problem that we face in mobilization.

Manpower is not as mobile as you think when you take their considerations into account: The home and the family and the church and the school are important in developing roots in the community and unwillingness to move.

I find in every study that we have made that the mobility of the workers lessens with increasing age and with higher skills. Some moments ago I talked about the highest-skilled people as being crucial to the production involved in mobilization. These are the very people who have the most capital invested in their resources, and who would be the least willing to jump about to another geographical location.

I said also that the conditions have changed vastly in the last ten years. Some of these changed conditions have reduced the mobility of our work force. In other words, I think that the work force of 1955 and the foreseeable future in this country is far less mobile and is far more rigid and fixed than anything we experienced in World War II.

00720

World War II followed a decade of labor surplus and heavy unemployment. In the 1930's people were looking for jobs anywhere in order to eat. Even in 1940 and 1942 we still had a large number of unemployed people in this country. That is not the situation today. Therefore people are not looking for jobs at a distance. They have good jobs, by and large. They are getting good pay, and are pretty well pleased with it. They are not moving, except for some very persuasive reason, to some very far-off section of the country.

Secondly, home ownership has advanced on such a scale, there has been such a tremendous upsurge in home construction and in the buying of homes by our people, that their roots are becoming more fixed in the community where they reside.

Third, the tremendous expansion of organized labor, and the growth of collective bargaining with agreements containing seniority provisions, give individuals vested rights in their jobs and less reason to move to other jobs, thus reducing mobility. In recent years the emergence of pension plans adds another factor to reducing the mobility of labor.

We cannot count on geographic mobility as being the answer to our meeting manpower requirements in mobilization. Increasingly we will have to expand our work in the areas where the people are.

And this is important for us too, in another respect: When we locate a new plant and hope that workers will migrate to it, we are not only putting material and equipment into a new plant in a new area, but we have to build roads, highways, schools, hospitals, sewerage disposal systems, and so on to accommodate the influx of people. That means using up material and manpower, not for direct production to support the war, but to support a particular plant.

We ran into some of that experience in World War II. We had put expansion in places where the labor supply was already short. Manpower had to come in. The result was that we had excessive labor turn-over and excessive absenteeism.

I recall one shipyard on the west coast where, in order to keep a working force of five thousand on the average, we had to replace some six thousand of them in the course of a year. They just had a one hundred percent and more turn-over.

Why? People didn't have places to sleep. In some instances they had beds which were in use for three eight-hour shifts. The bed was never cold. The fellow said: "Why in the world do I have to work under these conditions? I will go somewhere else." So we have this excessive turn-over. This points up the importance of bringing the work to the worker as an important consideration in dealing with manpower mobilization requirements.

Now, when we talk about the local labor market, it becomes extremely important to focus attention on that local labor market. When we do, we discover that local labor markets differ vastly from one another. In New England, for example, just commuting eight or ten miles is considered a considerable distance. If a worker goes beyond ten miles in some New England towns, he thinks he is in a foreign country. I am exaggerating a little. But in the southwest it is not at all uncommon for a man to go to a picture show forty or fifty miles away a couple of nights a week. In Los Angeles people move tremendous distances every day by private car.

Commuting patterns, movements between place of residence and place of work, vary widely in different parts of the country. And that means that the expansibility of the labor market is considerably different from one section of the country to another. Habits and ways of thinking differ from one labor market to another. We find that in some areas it is commonly accepted that women should engage in employment, and not only in white-collar jobs, in business and commercial enterprises, but in manufacturing. In some areas it is frowned upon. It may be the influence of the church or the school. It may just be the attitude of the people in that community. We find that the degree to which we can bring about participation in the work force and expansion of the work force will differ from one local area to another.

It makes a lot of difference what kinds of industries there are in these localities. Obviously, in an area that is composed primarily of metalworking industries, heavy industries, the opportunities for the employment of women are fewer. Expansion of the work force by bringing in women for metalworking jobs in such an area is limited. On the other hand, for an electronics plant, subassembly work or wire assembly work, something of that kind, thousands of women can be brought into the work force who are not in the work force today. The character of the industry, the composition of the local labor market and the competition that goes on between the various plants in the local labor market for manpower, have an important bearing on meeting the manpower requirements for mobilization.

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The reason I bring up those local labor markets is that in the final analysis the solution to meeting manpower requirements for mobilization, so far as operating responsibility is concerned, lies in the local labor market. Recruitment and staffing of plants for the mobilization requirements depend on the labor supply either existing or that can be brought into the work force within the immediate area. For that reason we focus attention on the local labor market. National totals are important for policies, for broad programs, for arousing popular response to manpower needs, for appeals to patriotism, that arise under a national mobilization situation. But the actual operation, the bringing about of a balance between manpower supply and manpower requirements, takes place in the local labor market.

For that reason, therefore, the machinery for dealing with manpower can never be completely centralized. The machinery must be close to where the job opportunities and the people are. For example, in World War II the President wired to each governor to borrow the state employment service for the duration of the emergency. For the duration of the emergency the public employment offices were federalized. There was created in Washington the War Manpower Commission, but the War Manpower Commission didn't operate. It was a holding company. It set policy. It worked on rules. It worked on public relations and related activities.

It worked with the War Production Board and Selective Service to influence the shift of manpower. It didn't operate directly. The operations took place in the operating arm of the War Manpower Commission--the Public Employment Service in the local labor markets. In any other emergency it will have to be the local manpower offices, probably the Public Employment Service, serving as a nucleus, that will provide the machinery for dealing with civilian manpower.

I hope that in a future emergency the results of some of the experiences which we had in World War II can be brought to bear on manpower mobilization where they are applicable. There needs to be a closer coordination between the activities of the Selective Service System, or whatever system obtains manpower for the Armed Forces, and the functioning of the civilian manpower office. In the future more than ever in the past there will be competition for exactly the same critically short skills by both the military and civilian sectors of the economy. Decisions will have to be made whether it is more important at a given time to have the output of a certain kind of jet plane, or certain kinds of landing craft with certain kinds of electronic gadgets on them, than to have a thousand or more men in the Armed Forces.

As a matter of fact, it may turn out that in future warfare--and you people are more expert in this field than I--manpower in the Armed Forces in terms of numbers may not be as important as having persons with the right skills.

It will make a tremendous difference, of course, whether we are confronted with a general-scale or a limited-scale type of war, what the theater of war is, to what extent transportation and the other logistics of supply come into the picture, and how much these considerations will influence the demand for manpower that is not in direct support of the combat troops.

I submit that we will not face one question in a future emergency that many people raised in the last war, and that is, Why should the civilians not make an equal sacrifice to the men in the Armed Forces, in uniform? This cry you have heard many times. I submit that will not be a problem in the future. The odds are that the casualties among the civilian population will be more perhaps than those for manpower in uniform. War will be brought home to us in a way that we have never known in this country.

Therefore, we must change our whole philosophy, our whole rationale, our whole approach to how we mobilize manpower to meet emergency requirements. It is even conceivable that in the future, should we get a sneak attack, our immediate problem will not be a shortage of skilled workers, but a surplus of skilled workers, depending on the time of day in which the attack takes place, whether it is at night or during the day, and how it takes place. We may find our production facilities bombed out and our workers evacuated, if we are lucky, but not able to engage in production because the facilities are not there. We may have to think in terms of whole sections of the country being almost economically self-sufficient in terms of raw materials, component parts, and end assemblies in a way that we have not yet done.

Our notions of the dispersal of plants are confused at the present time. We don't know where we stand. A couple of years ago we were talking about dispersing plants ten or fifteen miles outside the local labor market. But now with the hydrogen bomb we know we are not talking in terms of fifteen or twenty miles. A whole new kind of emphasis on the location of plants, and new problems with respect to the problem of labor supply confront us.

I want to end up on the note on which I began. While we learned a lot in World War II--there are some valuable lessons, one of the most important of which is a recognition of the significance of human resources for the prosecution of a war--nevertheless, the future emergency may confront us with situations so vastly different from those of the past that we must completely reorient our thinking and our approach and our machinery for dealing with the problem of meeting manpower requirements under mobilization conditions.

Thank you.

CAPTAIN LAUTRUP: Gentlemen, Dr. Levine is ready for your questions.

QUESTION: Doctor, we had the invention of the cotton gin and the weaving loom. They were technical developments. Then in the mid-thirties we had a term that we called "technology." Now we are using the term "automation." What do you mean? Are they the same thing, the same word? Is there a difference between technology and automation?

DR. LEVINE: Well, this is a matter of some controversy among the experts. There are those who say that automation is merely another aspect of technical development; that is just another stage in the mechanization of industry. I think that is true. But I think its implications are in some respects more far-reaching than perhaps we realize at this stage. It is machines doing not just the work of men, but machines moving into the stage where they in turn control other machines. Automation affects the field of inspection. It gets into the conveyance of materials in the process of production, which is automated in some industries now. It gets into a kind production where you can have only a few people controlling switchboards with some electronic gadgets on them in a plant that formerly might have employed literally thousands of skilled, semiskilled, and unskilled workers.

Some people have said this may mean a tremendous displacement of labor. I think it will mean some displacement of labor. It doesn't necessarily mean the creation of vast unemployment in all industries, because not all industries lend themselves to automation in all types of production. Automation is itself a pretty expensive process, and it has to be related to the market and the output of goods. If you turn out so many goods under automation that the market cannot take them you get a glutted market.

Under those circumstances I think that what we will have will be a potential capacity to produce vast quantities of goods with fewer people than we have now, with higher-skilled people required, and more technical know-how. We will also have a lower unit cost, which ought to have some significance for the expansion of markets. We work on the theory that markets are not completely saturated so long as people can afford more goods and thus increase their standard of living.

It means the emergence of more leisure time. I think that something which has been happening in the last five or ten years--which again is so close to us that we don't quite realize its significance, since it has happened right within the past year--is that as of the present moment we have exceeded the record of industrial output in 1953, and we are doing it with fewer people in manufacturing. But if you look over at nonmanufacturing, if you look over at the trade and service and recreation fields, and the travel field, you will find that employment is increasing in those fields. There has been a very considerable expansion of employment in those fields, while there is a fewer number employed in direct production. The total employment, therefore, is even higher than we had in 1953, but the segments have changed. I think part of that is attributable to types of automation that have already been introduced in manufacturing industry.

QUESTION: Doctor, is there a national plan to meet the requirements of manpower in mobilization? If not, what are the prospects of getting one?

DR. LEVINE: In World War II and following World War II, there emerged some plans for mobilizing manpower to meet the requirements. But then it slowed down pretty considerably until the Korean invasion came along. Then you recall we came to a period of partial mobilization, in which the Labor Department, in cooperation with the Office of Defense Mobilization, reactivated our field machinery, our inter-Agency Manpower Committees. We had an intergovernmental agency committee, on which were represented Defense, Agriculture, and so on, working with the manpower people out in the field. We also reactivated our regional management-labor committees, which were dealing with manpower problems. And in a few localities, where manpower shortages were emerging right after Korea, we reactivated the area management-labor committees.

You may wonder why all this is important. It is important because in a democracy, relying pretty largely on individual initiative and

economic decisions made by individuals, you must have the support of management and labor to carry out the Government's responsibilities with respect to mobilization of manpower resources and to indicate what the urgencies are, what needs to be done, and what places these needs exist.

In that sense there is a plan. If you say, is there some single plan included between two covers that lays everything out in black and white, has it all spelled out, I guess the answer is "No." However, there have been drafts of legislation drawn up, proposed standby legislation, for mobilization authority for the Federal Government. The machinery even at this stage, when we are partially mobilized, is not as significant as it was right after Korea. We are still keeping a nucleus in being in the field structure and machinery, which we can expand very rapidly if the need should arise. We are keeping, for example, in being the flow of manpower information on supply and on the requirements and occupational changes and so on in the local areas. We will have to base much of our program activities on such information.

So we are really working on that by keeping in being nuclei of machinery and functions and processes which can be expanded very quickly for mobilization purposes. But as to there being one clean overall plan, I would say that it doesn't exist.

QUESTION: I am really asking you to write a term paper in answering this question. I understand that during World War II we had Mexicans working in agriculture and on the railroads and in foundries, and Canadians working in lumber. What do you think the potentials are of augmenting our labor force with foreign labor brought into the country during a future mobilization?

DR. LEVINE: We have some foreign labor in our country now. We bring Mexican nationals here to work in agricultural crops in the southwest or the west for short periods. We bring some British West Indians into Florida and up along the coast.

There are potentials for expanding our labor supply by bringing in people from other countries. I mean by "other countries" bordering countries. If you have to go across the water for it, I don't know. I don't know what kind of war we will be in. We couldn't bring workers over from Puerto Rico for short periods in World War II, because we weren't sure that we could get them over to the mainland. But from the border countries it might work.

The foreign workers that we bring in, however, are mainly workers who are unskilled. They don't have the skills which we are talking about, that is, the critical-shortage skills. They can only replace unskilled workers.

Generally they fill needs in those industries and occupations where we cannot attract domestic labor because of very bad working conditions. For example, one of the most difficult occupations to fill during World War II was in foundry work. It was because of the dirty, hot work. And yet it was an unskilled occupation.

On the other hand, we couldn't fill our needs for copper miners by bringing Mexicans or Canadians in during World War II. We got those workers by furloughing soldiers and bringing them into the copper mines. Of course, actually we didn't get copper miners. When the Army let them loose, they were anything but copper miners. They were mostly coal miners, and they didn't fit in very well. That is the kind of situation that you encounter. The British in World War II actually had to furlough troops from North Africa to add to their coal production.

I don't believe that foreign countries will be an important source of labor supply for us except in a few instances of unskilled, difficult-to-fill occupations. But these will not necessarily be the most crucial ones.

Now, there is another source of labor supply that we had in World War II, that I don't know whether we will have in a future emergency, and that is war prisoners. We used many German and Italian war prisoners in World War II. There again we couldn't use them in critical or essential war production, such as in the plants producing planes. We used them in agriculture.

Now, to the extent that this permitted someone else in agriculture to go into the Armed Forces or move over into some other essential industry, there was some relief. But I wouldn't think this is a major source of labor supply.

QUESTION: Would you comment on the attitude and the thinking in the Department of Labor regarding the drafting of workers in all-out mobilization, in other words, the so-called national service theory?

DR. LEVINE: Well, this has been one of the most controversial areas in all of the discussions that you can get into in manpower. And it is understandable in our country, because we have always been a democratic, individual-liberty kind of country.

In World War II, in contrast to the British, we did not institute national service in this country. We relied on indirect methods for assuring that manpower would flow into the industries, the occupations, and the types of production that were needed. That is a hazardous kind of undertaking. We used indirect methods. We saw to it that materials didn't go to the less essential industries. Therefore those industries couldn't continue production. They had to lay off workers. The workers had to find jobs somewhere. We saw to it that the only way they could find a job was with a certificate, and the certificate permitted them to go only to certain industries where they were needed, which is an indirect method or instrument.

Selective Service was a tremendously important instrument for moving people around in World War II. All we had to do was to shift the age categories, and vulnerable people went into the aircraft plants, if they were in certain ages, before we could catch up on them. There were a variety of these indirect methods.

We relied very heavily--and this is extremely important in a democracy--on popular appeal. When people are informed, and they know what is required and needed of them, and the emergency is great, the response is tremendous. I would maintain that manpower mobilization is an easier task under a situation of war than it is in a situation like the Korean situation of partial mobilization, because we don't get that popular response, that appeal to patriotism.

Let me say that the British, with national service legislation, and authority to draft civilian workers under these conditions, never really relied on it. They relied on moral suasion, in the final analysis. They would sit down with a woman who would prefer to take care of her kiddies and didn't want to get a job in this textile plant producing material for uniforms. They would talk with her in terms of the problem and talk her into it. Rarely did they say, "We will compel you to go into this."

If the alternative is to throw people in jail, let me tell you that planes and tanks and guns don't get produced in jail. If your people

are not behind you in your prosecution of a war, the legislation in itself will not achieve it.

Now, there are advantages in national service legislation, on the other hand, because the mere fact that authority exists may mean that you don't ever have to exercise it, and that you can succeed with moral suasion more easily.

However, most people with whom I have discussed this problem think that national service legislation encroaches so deeply on human liberty and individual rights, both of management and of labor, that they don't want to run the risk of losing them even temporarily, for fear that they may not regain them completely when the emergency is over.

This has been the line of thinking up to the present time. Certainly the management and labor representatives who are sitting with us in our advisory councils and committees have unanimously said that they oppose national service legislation.

On the other hand, information is becoming available with regard to the kind of warfare which may confront us in the future, with massive destruction of human beings and plants and equipment, and with whole sections of the country perhaps being completely paralyzed. There is a growing feeling that if it isn't national service, what would it be? Can you rely on indirect measures? Can you rely on mere popular appeal? And the alternative seems to them to be martial law. When management and labor are confronted with an alternative of choosing between martial law and national service, I think it is safe to say that although they don't like either, they probably would prefer national service. But they haven't quite reached that decision yet.

CAPTAIN LAUTRUP: Dr. Levine, I regret to say that we have run out of time. On behalf of the Commandant and the rest of the College, I wish to thank you for a very excellent presentation.

(18 Oct 1955--250)B/mmg