

THE PRINCIPLES OF MANPOWER UTILIZATION AND CONSERVATION

20 October 1953

761

CONTENTS

	<u>Page</u>
INTRODUCTION--Lieutenant Colonel W. R. Norman, USAF, Member of the Faculty, ICAF.....	1
SPEAKER--Dr. Dale Yoder, Director, Industrial Relations Center, University of Minnesota.....	1
GENERAL DISCUSSION.....	11

NOTICE: This is a copy of material presented to the resident students at the Industrial College of the Armed Forces. It is furnished for official use only in connection with studies now being performed by the user. It is not for general publication. It may not be released to other persons, quoted or extracted for publication or otherwise copied or distributed without specific permission from the author and the Commandant, ICAF, in each case.

Publication No. 154-45

INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

Dr. Dale Yoder, Director, Industrial Relations Center, University of Minnesota, was born in Gibson City, Illinois, 4 February 1901. In 1923 he received his A.B. degree from James Millikin University. He did graduate work at Iowa State University, receiving his A.M. degree in 1926 and Ph.D. in 1929. He was instructor at Iowa State University from 1924-29; assistant professor from 1929-31; and associate professor from 1931-34. From 1932-34 he was professional lecturer at Minnesota University and professor of economics from 1934-35. He became Director, Industrial Relations Center, Minnesota University in 1935. During World War II, from 1943-44, he was director, Planning Division, War Manpower Commission, and chairman, Sixth Regional War Labor Board, 1944-45. He also served as consultant, U. S. War Department, 1944-45. Professor Yoder is a member of numerous professional societies. He has written many articles and books dealing with personnel management and industrial relations. Two of his latest books are: "Personnel Principles and Policies" published in 1952 by Prentice Hall, and "Manpower Economics and Labor Problems" published in 1950 by McGraw Hill. This is his first lecture at the Industrial College of the Armed Forces.

## THE PRINCIPLES OF MANPOWER UTILIZATION AND CONSERVATION

20 October 1953

COLONEL NORMAN: Admiral Hague, General Greeley, gentlemen: In our lecture series in the Manpower Unit we have heard lectures on a number of subjects, including our human resources, manpower requirements for a mobilized economy, some aspects of the education and training of our manpower, and some of the problems of mobilizing our manpower.

In looking at these lectures to find a common thread that runs through them, I find that the common element, either expressed or implied, has been that in an all-out mobilization, we will in all probability be short of manpower. It behooves us, therefore, I think, as military managers and managers in civil government, to manage these vital resources with such wisdom that we will elicit from the worker his maximum contribution, whatever his job may be.

Our speaker this morning, Dr. Yoder, Director of the Industrial Relations Center at the University of Minnesota, is prepared to discuss with us this very vital subject of effective manpower management under the specific title of "The Principles of Manpower Utilization and Conservation." Dr. Yoder has spent much of his working years in this field studying, teaching, and writing; during World War II he served with the War Manpower Commission and as a consultant to the War Department. I think his experience and background give him an excellent vantage point to discuss with us this subject this morning.

Dr. Yoder, I am very happy and pleased to introduce you to this audience.

DR. YODER: I would be less than frank with you if I did not tell you first of all that I appreciate this introduction. Second, I am flattered to be asked to join the faculty which you have brought together for discussions of manpower problems; and third, I think you should know that whoever does the work in planning these programs deserves some very special credit for the careful way in which the members of this faculty, drawn from all over the country, are informed in advance as to what is expected of them.

I am going to start, as every college professor does, by defining terms. Let's start with manpower. Since you have been studying manpower for several weeks, no doubt you have repeatedly been warned that manpower is a very inclusive term. I can't use the term without remembering the definition given right here in Washington, D. C., during the war. Governor McNutt was explaining the program of the War Manpower Commission. A Congresswoman member of the committee commented on his presentation, saying, "Governor, you have talked consistently about the problems of manpower, and you have said nothing about womanpower. Do I understand the entire manpower organization has to do with

men only?" To which he replied, "Oh, no, Congresswoman, not at all. In our concept of manpower, manpower embraces womanpower." "Principles" I assume, mean fundamentals, truths, primary or basic laws. In science, of course, a principle is a demonstrated and accepted relationship. I mention that to you because we are going to have quite a lot to say about principles here this morning. Such a generalization could be used as a basis for forecasting and for controlling. I know you must have heard that repeatedly, because that's the old standby definition of principle. Principles are the bases for prediction and control.

Let's accept that and take a moment to talk about conservation. Conservation of manpower, like conservation of any other resource, can be defined most simply by describing it as the avoidance of waste. What you are trying to do, in other words, is to use a resource in such a way as to avoid waste. We mean, in other words, the most effective application of resources.

Utilization can be defined in one word. It means "use." It is that simple. Conservation is the end product. Conservation is what we are working toward. Manpower is a resource comparable to all our other resources. We want to use it just as we do our petroleum resources, our timber resources, our mineral resources, or any others.

Now, in order to conserve manpower, we want to allocate the manpower to those places, positions, and points where it will make a maximum contribution. This is like the disposition of military forces. When we get men on the job, the problem of effective utilization begins. We want to maximize their utilization on the job.

These two processes in their broad terms make up what, for want of a better term, we can call "manpower management." If there were a lot of time I would like to take time to explain the difference between that and personnel management and industrial relations, and some of those other terms we use, but I think we will get along all right without that explanation.

There's one word that ought to be written across that whole chart because it makes our problem very difficult. It is the fact that all of this whole procedure has to be carried on in a situation which involves voluntarism. In other words we try to allocate and utilize, in peacetime particularly, on a voluntary basis. We want to allocate manpower, but we don't want to allocate it in the sense that we say, "You go here." What we want to do is to get you to say, "I will go here, because that's the best place and the most profitable place for my resources to be used."

In our system we have done a good deal of thinking about this and we have definite objectives. We, as a society, are agreed on effective allocation, utilization, and conservation of manpower--all, however, through freedom of the individual to make a maximum of choices for himself. We come then to the question of what principles can be stated.

There are five. The first one is negative. The first principle is that we must realize that we really know very few principles.

The second one, and a very important principle in our society, is the fact that utilization, conservation, and allocation are a divided or a joint responsibility. There is no one person, or one agency, or one group which is responsible for these functions or these major processes.

Third, conservation of manpower resources in a period of emergency involves essentially the same activities and functions as are involved in peacetime, but the emphasis changes.

Fourth, emergencies require very special coordination, which should be based on expertness. In the past we have not had coordination based on expertness.

Fifth, to prepare and provide the competence that we need for handling these processes in a period of emergency, we need vastly expanded manpower research. We need to expand our peacetime research as a preparation for emergency situations when they arise.

Let's talk about this first principle. I said it is rather negative, yet I think it is a very important place to start. We have very few real principles in this whole field of "manpower management." Why do we have so few principles? Why don't we know a great deal about managing manpower? There are a lot of reasons. One of them is the fact that the field is shockingly full of prejudices and carryovers from ages past.

The field is full of beliefs, superstitions, and carryovers from ages past. One by one, we are checking them out, and most of them don't check. These old rules of thumb tend to hold on; they're hard to get rid of. In part this is due to the complexity of manpower. Trying to predict what a group of men will do, trying to predict their behavior in an employment situation, involves a number of factors greater than those with which the atomic scientists have worked.

Second, there's the fact that in our whole system is a novelty, really a new system. The idea of large work teams working voluntarily is a very recent stage in the history of mankind. Most of us date the industrial revolution by one event or another. I find students tie it in with Adam Smith, and Adam Smith with the Declaration of Independence. That makes it reasonable to date it back to 1776. Two to three hundred years back is as far as we really go with this system. The system of slavery had thousands of years of tradition. The handicraft system with the apprenticeships, journeymen, and the master craftsmen has a much longer tradition than this system we now have of free men working together in great working teams.

One of the great difficulties is that the system is so new. For that reason, it is not surprising that we don't know much about it.

The second principle I would like to suggest to you is that, in our society, manpower allocation and utilization represent a divided responsibility. Who makes the policies under which we allocate our manpower and use it? Well, the employer is the most obvious person. You see him clearly and realistically as the employer. But you don't have to have second sight to see the union in the background, with tremendous influence on all these major functions in the process of manpower management. The union helps to set up wages and has a lot to do with the training and use of manpower.

It takes only a little thought to see that the Government is in there all the time. It maintains factory inspection and makes wage and hour laws. There are contract auditors and inspectors of all kinds. The Government is a very important factor in the control of manpower and in its allocation.

On a lot of our efforts to control manpower and use it effectively, a wide area is left for the individual. A lot of manpower management is done by the employee himself. Who makes the decisions as to what jobs we are to take in our society? The individual does. He is not on the end of a string. You don't pick him up and put him over there. He says, "I want to live in California and I will go out there to work." He says, "I will do anything to get away from my mother-in-law, and I will find my work somewhere else." He has freedom to do just that.

In every employment situation, you have the employer; you may have a union; you have the Government; and you have the individual. Any program, therefore, that we try to develop in a period of emergency has to take account of all of these, and it has to be familiar with the participation of all of them and with the nature of their participation.

Now, at this point, if you don't mind, I would like to call attention to the mimeographed sheet which was handed out. From here on we will want to refer to it. What we have tried to do here is to be specific and put down on paper the major functions or activities through which we attempt to conserve, utilize, allocate and, in general, manage manpower.

These are not just a rocking-chair group of functions. They're based upon the returns from a large number of surveys in which several thousand firms and unions have reported. They represent a "standard" classification of the major functions that are carried out in this broad field of manpower management.

1. Departmental administration: administrative direction and review of the whole employment relations program.

2. Planning:
  - a. Policy formulation--recommending new or changed policies and implied practices.
  - b. Programming--planning and developing programs designed to carry out accepted policies.
  - c. Organization--recommending revisions or extensions in overall organization and interunit relationships.
3. Staffing:
  - a. Job analysis--identifying and describing jobs; may include time and motion study.
  - b. Recruiting--discovering and securing manpower.
  - c. Selection and placement--screening applicants through testing and interviewing; making initial adjustments for new employees.
4. Training (all types from job to executive).
5. Promotion and transfer (includes termination, severance pay, exit interviews).
6. Personnel rating: periodic evaluations of employee performance and potential.
7. Labor relations: collective bargaining, negotiation, contract administration and grievance handling.
8. Employee services and benefits:
  - a. Communications--in-plant communications (publications, handbook, suggestion systems, bulletin boards, etc.).
  - b. Counseling--aid and advice to individual employees.
  - c. Other services--financial aids, recreation, administering pensions, insurance, unemployment compensation, etc.
9. Health and safety: sick leave, hospitalization, medical benefits, safety programs.
10. Wage and salary administration: wage surveys, payroll management, etc.

11. Records and reports: records for all industrial relations functions; preparation of reports on work of the division.

12. Audit and review: checking programs against policies, evaluation of current policies, programs and practices.

13. Research: conducting studies of current policy and practice; analysis of records, etc.

14. Overhead and miscellaneous: not defined or described.

Also, I have a couple of slides which I would like to show you. They represent the results of some recent research.

The first of the slides (figures) refers to exactly the same 14 classifications of functions. It shows the average functional cost per employee by industry group.

Figure 1. Personnel ratios, by industry and number of employees, 1953

Industry group	Ave.	Md.	Q <sub>1</sub>	Q <sub>3</sub>
Manufacturing .....	0.73	0.80	0.57	1.02
Trade .....	0.69	0.80	0.43	1.07
Construction .....	1.00	--	--	--
Banking, finance and insurance .....	1.07	1.18	0.71	1.78
Transportation .....	0.61	0.80	0.33	1.17
Other public utilities.....	0.80	0.81	0.56	0.99
Government .....	0.58	0.66	0.35	1.12
Miscellaneous .....	0.84	0.76	0.46	1.05
All.....	0.74	0.80	0.57	1.10
Numbers of employees				
1-499 .....	1.21	1.00	0.73	1.46
500-999 .....	0.96	0.83	0.60	1.09
1,000-1,499 .....	0.81	0.70	0.58	1.00
1,500-1,999 .....	0.80	0.77	0.53	0.93
2,000-2,499 .....	0.74	0.67	0.39	0.95
2,500-2,999 .....	0.90	0.78	0.44	1.06
3,000 and over .....	0.70	0.66	0.44	1.00
All .....	0.74	0.80	0.57	1.10

The main reason for calling your attention to these costs is the fact that these are the functions which, during peacetime, make up manpower management. They are the ways in which we do get people to the job, allocate them, the ways in which we try to effect their utilization and make it as efficient as possible. In emergencies we change the emphasis, but we stick with the same essential functions.

I would like to move to the other slide, which has the same functions. This information has become available only in the last 60 days. The figures are personnel ratios. They show the comparative amounts of manpower at the staff level that are allocated to each of those 14 major manpower-management functions. The ratios show how many staff people in personnel are employed per hundred employees. The average ratio today is something like 0.74. The figure, following page, shows functional ratios.

The third principle is that emergency programs involve a changing emphasis among the same functions. What are the major changes? We tend to put special emphasis on five of them, but the other nine tend to be less important.

Those that stand out in periods of emergency are: first, staffing; second, training; third, labor relations; fourth, wage and salary administration; and fifth, the number one function, the general administration of the whole program.

I wish there were time to talk about each of these in some detail, but I think we had better pick out two or three of them. Take staffing, for example, in a period of emergency the problem of staffing becomes more difficult, in part because a large part of our manpower is drawn into the military services. That is only the most startling and striking phase of the situation, however. Staffing is more difficult because fundamentally you change the nature of the jobs to be filled and the proportions of the jobs in each major category. You move large segments of manpower into manufacturing, for example. You need to pull manpower out of the less important occupations and draw them into what we call war-supporting industries, which become so terribly important to the successful meeting of the emergency.

One major problem of staffing during a period of emergency involves job breakdown. We can handle all sorts of complicated jobs with manpower which is not familiar with those jobs by careful study and separation of the skilled and unskilled parts of the job. We did that on a limited basis in the last war, but we didn't do a thorough job. We tried to pull out the critical incidents or the crucial techniques and to match them with essential skills.

Again, we have to call on our "labor reserves for staffing in emergencies. In the last war, we were slow to realize that our maximum reserves of women were available on a part-time basis. Women will be more important in the immediate future, for our labor force is increasingly becoming a female labor force. The increase in labor force will amount to about 25 million in the next 20 years. The women's portion will increase twice as fast as the men's section. We are going to have to work with women a great deal more than we have in the past. The whole question of staffing with part-time people must be given very serious consideration in any future planning at this level.

Figure 2. Average functional cost per employee, by industrial group

Function	Industry Group								
	All	Manufac- turing	Trade	Construc- tion	Banking and finance	Trans- por- tation	Other public utilities	Govern- ment	Other
1. Administration .....	\$ 4.32	\$ 4.05	\$ 3.96	\$ 5.85	\$ 5.77	\$ 4.35	\$ 5.59	\$ 3.66	\$ 4.66
2. Planning policy and organization .....	2.95	2.43	1.84	2.77	4.32	5.42	2.33	1.46	3.26
3. Staffing: job analysis, selection, recruit- ment induction .....	11.36	13.34	6.39	9.03	11.43	5.18	9.91	5.37	13.35
4. Training .....	6.01	7.28	3.40	1.62	9.39	5.49	3.35	0.73	2.60
5. Promotion and transfer .....	1.33	1.27	1.01	3.62	1.78	1.17	1.33	1.22	1.74
6. Personnel ratings .....	1.29	0.60	0.94	1.90	1.89	2.38	0.58	--	3.84
7. Labor relations .....	4.60	4.37	1.89	6.90	0.22	9.28	5.24	2.20	3.56
8. Employee services, including com- munications .....	9.38	8.51	5.20	3.53	10.00	14.49	10.07	1.95	10.67
9. Medical, health and safety .....	9.94	11.84	3.47	13.79	5.75	4.80	9.72	1.22	13.00
10. Wage and salary administration .....	2.53	2.56	2.45	2.33	7.07	1.39	1.18	2.44	2.64
11. Records and reports .....	3.25	2.20	2.23	2.17	3.85	5.04	5.15	5.85	5.61
12. Audit and review .....	0.78	0.46	0.23	1.10	1.34	2.34	0.54	0.73	0.73
13. Research .....	1.02	0.60	0.41	0.95	2.32	1.54	1.32	0.73	2.32
14. Overhead and miscellaneous .....	2.50	2.78	0.32	1.10	0.98	2.88	1.79	2.93	3.03
All functions .....	\$61.26	\$62.29	\$33.74	\$56.66	\$66.11	\$65.75	\$58.40	\$30.49	\$71.01

Let's look at the second function to be emphasized--training. About one-third of our labor force had to be retrained in World War II. The TWI program I think is the bright shining light in this picture, a development of which we are all proud. That was a great development which needs to be carried much further than it is today.

Labor relations I shall pass with a few remarks, not because it is not tremendously interesting, but because I assume you will hear more about it from others who will speak to you. I will say that our experience with labor relations in the last war, if looked at objectively, should give us great concern. We just did not know our way around. Unfortunately, we just don't know our way around today. We haven't scratched the surface on this subject. This must have a tremendous amount of study if we are going to learn how to handle it.

I am sure you gentlemen don't have time to follow the presentations made before the various Senate and House Committees which have been discussing a revision of the Taft-Hartley Act. If you had, I think you would be impressed, as I am, with the complete lack of anything in the nature of agreement based on facts.

The reason there is not agreement is that there are very few facts and so little understanding in this area. We must never let ourselves go into another emergency without more understanding.

Wage and salary administration will have to have special attention in any period of emergency because of the economic problems of inflation. However, I would like to suggest to you that here again we desperately need much more information than we had in the past. Our rubber wage freeze of World War II served fairly well, mainly because the war did not last long and was not too disastrous. Over a longer period of time we would have been in a serious turmoil.

I find the number one function, general administration, the one I think would be most important in an emergency. During World War II, and during the years since then, many of our major problems have risen out of the fact that we do not have competent general administrators in the manpower area. When the War Manpower Commission wanted to find people who could be helpful, it found identification of experts almost impossible. The national roster had no effective list of people who had competence in this area. I am proud of the fact that in our own Minnesota Industrial Relations Center we have developed a roster of people in this field who have competence. It is not perfect, of course. We have over 600 personnel people who have joined with us on research projects year after year. In another emergency I think they could be called on with great advantage. It is the only list of its kind in the country. We hope to make it more and more extensive as time passes, to meet the need of competence in this general administration principle.

The fourth principle refers to the need for special coordination in emergencies. What I have in mind is that we need some agency to pull together all the manpower programs of the Nation; to put them together and to make an integrated pattern of them. In the absence of an integrated agency, these programs can interfere with each other to the injury of all.

It is my opinion that such an agency should be based on expertness, not on representation. I do not see that in a period of emergency we need tripartite decisions on manpower problems. I think what we should do is pull together a group--I should say some of you gentlemen who have been studying this subject would be likely candidates for it--from military and civilian areas and set them up at the Washington level to make one policy, an integrated policy. The World War II War Labor Board was tripartite--employers, CIO, AFL, and the public. The War Manpower Commission and a dozen other agencies all worked on problems of manpower management. The need is for an integration of these programs.

Finally, we must expand peacetime research as a basis for real competence in manpower management. You probably all agree with this principle. Yet the point is probably the most important point of all the remarks that might be made on this subject, because you see we have only made the beginnings in laying the real foundation for principles in this field of manpower management. The military services have taken a very active part in moving in this direction. (We have, as you may know, been engaged jointly with the Navy and with the Air Force in research in this manpower management field since the war; we are also at the present time so engaged.)

We have really just begun to open up this subject. For example, it is terribly important, in meeting the manpower problems of an emergency, to know something about mobility. We have learned a great deal since the war about it. Two volumes on this subject will be published within 90 days. Some of the findings of recent studies have been available to some of you in mimeographed form on a confidential basis.

We have learned a great deal about the mobility of our population. A study made in six cities across the country has given us information with respect to the age, sex, home ownership, income level, and occupational groups that are most mobile in our population. We need to know what mobilizes them. I am using "mobilize" not in the military sense, but "mobilize," meaning "to move around."

I was interested in the Admiral's comment on the way in here with respect to some communications problems. That's a field in which the ground has been scratched, but not too much is known. We have heard a lot about readability. How do we get things so all of us on the work team can understand them? We have worked out a scale or measure for unemployment communication. I wish there were time to tell you about

our experience with respect to receptability. This has a great effect on the communication, both downward and upward.

We have only begun to understand on-the-job motivation. We haven't found a perfect relationship between the morale and the productivity of employees. We need to know much more about the factors affecting productivity.

A great deal more research needs to be done on working hours. We don't know what are the most efficient working hours. During the war the War Manpower Commission was asked to recommend a standard workweek. Why didn't they give a quick answer? The answer is that so little is known. This question is going to become increasingly important. Working hours are going down. The number of holidays is increasing year by year, and the weeks of vacation. Our working hours are going down. I will make a bet with any of you who are around in the year 2000 that they will be mighty close to 24 hours a week. If you can't wait that long, it looks as if the workweek might be 35 hours by 1970, and 38 hours by 1960. We are moving down. We will presumably keep on moving down.

What are you going to do about using manpower when you find yourselves in an emergency and you have men working 30 hours a week? You can get them to work more if you know that will increase their productivity.

We are faced with the fact that we are going to have a vast number of old people in our labor force. Are we going to use them effectively? Some of our research with the Navy brought out ways of testing jobs to discover those in which older people are as efficient as younger people. We need a vast amount of research in that area.

Let me close by saying I think you should carry away from here a clear picture of the fact that we don't have too many principles. I am worried about people who don't recognize that fact. I should say to you, if I am any forecaster, that we face a revolution in our manpower management comparable to the industrial revolution. A lot of you have been reading about automation. It is coming--no question about it. We are going to be in a period in which we must make more rapid adjustments to changes than we have made in the last 50 or 100 years.

Will you make the right adjustments? Will you get effective utilization and conservation? I say to you the answer to that is how well we understand. If we don't understand we will make mistakes.

I thank you.

COLONEL NORMAN: Dr. Yoder is ready for your questions, gentlemen.

QUESTION: Dr. Yoder, you mentioned research is being done at the University of Michigan on motivation. Can you tell us more about it?

DR. YODER: Yes, I can tell you some more about it. The Michigan research has been going on for a good many years, ever since the war, and is going on today. It studies motivation on the job in a wide range of industries, in railroading, and in at least one large insurance company. It has tried to find out how the morale of the employee is related to his weekly output and productivity. It hasn't found strong positive correlation, on the other hand, it is not true that the most disgruntled employee is the most productive. It doesn't follow from the fact that there's not a strong positive correlation that there's a negative correlation. They didn't find by any means that there were employees, or groups of employees, that were the most productive. They have found that certain types of morale are closely related with output, with performance on the job, particularly the attitude toward one's work group, the small work group.

QUESTION: You emphasized the voluntarism of this process. An alternative that always comes to mind is a national service act as opposed to voluntary manpower. Will you make any comment on your belief in the practicality of this?

DR. YODER: Yes, I have thought a great deal about that. Incidentally, I didn't mention the fact that about a year ago one of the Senate committees asked us to prepare a little booklet on this whole question of manpower in a democracy. I wonder if it has come to your attention. If it has not, it is probably readily available.

COLONEL NORMAN: We have that, Professor.

DR. YODER: I am glad you do. I thought I might mention it to you. We discussed this question there. I would not pretend I have the answer, but I think there's much to be said for some sort of national service legislation, because in an emergency timing is so terribly important. I think it would not be necessary if we knew a lot more about mobilizing manpower; if we knew what incentives will move men into jobs we would be in a much better position to do it on a voluntary basis.

With our present knowledge, it seems to me if we were to find ourselves in a full-fledged emergency nothing short of national service would be adequate. I wish, before we face such an emergency, that we could learn enough about the manpower situation so it would not be necessary. The reason for that is simply that motivation on the job and the output, would be better.

QUESTION: Dr. Yoder, you stress the necessity for greatly expanded research in peacetime, and you also made the point that no one knows what the ultimate or the most productive workweek is. It seems to me the thing can be determined by a series of controlled groups throughout industry working 36 to 60 hours a week and, of course, adequately compensated for that. Has that been tried on a large enough scale to give some information?

DR. YODER: That's a good question and a very fair question. It is shocking to answer no, but it has to be answered that way. There's a serious need to do some experimenting. What we need to know is what the factors are that influence the length of the most effective workweek.

QUESTION: I would like to return to the national service aspect. That has been a very hot one here, and your approach has been somewhat different from any that we have heard. My question is, with the established American antipathy toward any kind of coercion of this sort, do you believe a national service act would be enforceable?

DR. YODER: I don't like to quibble on things like this. I would have to answer it would be enforceable like prohibition is enforceable--not 100 percent. The ceilings we employed during the war--I don't know how familiar you are with them, all you fellows look so young you probably don't remember what went on--were avoided in various parts of the country. You have a right to assume that a national service law would be extremely hard to enforce. On the other hand it is my impression that the vast majority went along with the controls and tried to observe them. On that basis I should think one probably would get a pretty high rate of compliance with national service legislation.

QUESTION: Dr. Yoder, your slide indicated that the Government spends \$5.37 as compared to an overall average of \$11.00, roughly, for staffing, and that the total Government expenditure is \$30.00 as compared to an average of \$61.00. Does this indicate efficiency in the Government or a lack of accuracy?

DR. YODER: I am bound to tell you that the column "Government" includes only one Federal agency and is for the most part made up by reporting agencies from the States. In talking with some of the people involved, they insist that their expenditures are reduced because there are certain functions which they do not have to perform--notably, labor relations. In at least one or two agencies they feel they are not economizing; that they are not necessarily more efficient, but simply that they have much less emphasis on certain functions which are common in industry.

You have sharp eyes, I might add, to pick that out of that chart.

QUESTION: Doctor, you made a remark that the TWI program is a bright spot. Would you mind enlarging on that?

DR. YODER: TWI was training in our industry program. It was developed to meet the problem arising out of the expansion of war-supporting industries and required the retraining of one-third of our labor force, approximately 20 million people.

The TWI program was a system in which the principles of learning were applied first to job training. It was expanded to and beyond job training into supervisory training.

I don't know the numbers of men who were trained, but it runs into the millions.

QUESTION: The experts are somewhat agreed about the fact that the greatest source of our increase in the manpower pool is to take the housewife out of the house and put her to work. In connection with some of the evaluations that we have done in the committee, and particularly as it was emphasized yesterday by another speaker, there is a great, it seems to me, important pool of manpower in service and trade. Current statistics seem to indicate that is what has been building up, where we had a dropoff in agriculture and manufacturing. I wonder if you will make some comment on that.

DR. YODER: I think what you have said is correct. The same was true, but not to the same degree, when we went into World War II. We would ask boys to transfer out of the service industries and go into the war industries. You don't need as many filling station attendants when you have gas rationing. You don't need as many barbers in wartime. You can cut down on the services and move them to manufacturing.

We were successful, as you know, also in moving a considerable portion of people out of agriculture and transferring them to work among the industry groups.

QUESTION: Professor, from the standpoint of age of the labor force between World War II and the present time, if we were to go into an emergency, could you give an estimate as to the relative productivity of the work force today with that of World War II?--on an individual basis, let us say.

DR. YODER: You implied that there's not much evidence as to the declining productivity of the aging members of the labor force. The evidence is pretty contradictory and very spotty. On the subject of using older people, there's an extremely small amount of fact and a great deal of speculation.

In the very limited studies we have made, we have found that in a number of occupations the older employees are equally productive with the younger employees. In some others they are not. In still others we have had difficulty in measuring their productivity, but we are told that they are more productive.

The real loss in the age groups is not coming from declining abilities. Where we are cutting our force with respect to older manpower

is on retirements on a chronological basis. There are a number of research projects underway now to find substitutes for the chronological age as a basis for retirement. If we can find an answer to that, we will have increased our manpower appreciably. There are men out of the market today all over the country, people who want to stay in and are able to stay in.

COLONEL NORMAN: Let's take that one to quit on. Dr. Yoder, thank you very much for a very stimulating discussion. I know we have all benefited from it.

(25 Jan 1954--750)S/en