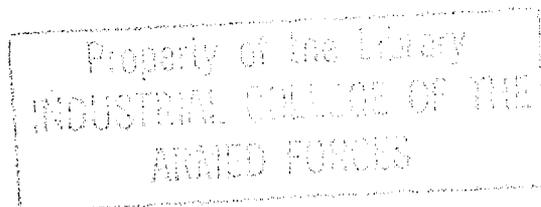




MANAGEMENT THEORIES

Dr. John F. Mee



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Reviewed by: Col. Ingmire

Date: 11 Sept 63

INDUSTRIAL COLLEGE OF THE ARMED FORCES

WASHINGTON, D. C.

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MANAGEMENT THEORIES

26 August 1963

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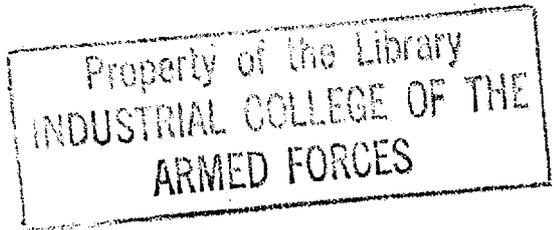
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COLONEL INGMIRE: Admiral Rose, Gentlemen: You are aware of our responsibility in the Industrial College as to the management of national resources.

Today we start to underline the responsibilities, the definition, the tools, and the techniques which are involved in management as a whole. The details of how this will be accomplished in this element of Unit I which you are now undergoing will be covered in the second session this morning by your faculty instructors.

We are most fortunate to have to kick off Management Theories a man who now holds one of the two Mead Johnson chairs in the United States. This is a very high honor given to Professor Mee as an individual. It has not been given to the university to be filled by whoever they see fit to put in it.

You have read about the various jobs that Professor Mee has held, the various titles. As I mentioned to him, I didn't know whether to call him colonel, chairman, president, professor, doctor, or what.

So with this element of indecision on my part, I take great pleasure in introducing to the Class of 1964 Professor John F. Mee of Indiana University. His subject is "Management Theories."

Professor Mee.

PROFESSOR MEE: Admiral, Gentlemen: In the moments that we have here to go in to explore this area of management theory, let's hold that little individual visual aid that you have until about a half-hour passes. That comes in the summary, but I thought it would be better for you to have it in your hands, and then you will be sure at least to have something to take out of the room. So you'll have that, and I'll tell you when we come to it.

We are on the subject of management theories, and, believe me, it is a pleasure to explore with you the several theories of management which have emerged and which are in various stages of development. With few exceptions, management theory is the product of the present century, the 20th century. A chronological and analytical study of the development of management theory during this 20th century leads to the following conclusions.

The first conclusion is this: Management exists as a distinct and identifiable intellectual activity which lends itself to practice, to study, to teaching, to research, and to experimentation. It consists of a body of knowledge and a set of proficiencies or skills and a value system for decision making and managerial behavior.

The second conclusion is: The development of management theory indicates a chronological relationship to the development of the economic, industrial, and political climate of the countries where it originated and evolved, namely, the United States, France, and England. This is a very important point, because we have virtually established that management thought or management theory in any nation or any country does not emerge and evolve and generate any interest until that nation or that country has an industrial climate, an industrial development, or something to which management thought or theory can be applied. If it is strictly an agricultural economy, that management thought has never emerged. So the management theory came in the industrialized nations of the world.

The third conclusion is: In the United States the genesis of management theory was from the area of operative work. In Europe it was from the executive level of top management.

The fourth conclusion is: The development of management theory resulted

from the contributions of certain established disciplines and evolved into a separate and distinct discipline capable of contributing concepts in return to those disciplines which nourished its origin and development--such as engineering psychology, now mathematics, sociology, and the like.

The fifth conclusion is: Management theory developed in successive stages which may be identified and characterized by the use of concepts.

The sixth and last conclusion is: The conceptual framework for a theory of management consists of elements or functions which may be identified and combined in accordance with the desires or requirements of those responsible for the operating institutions in the economy. Therein is this conceptual framework which you have in your hands, the visual aid, which we will move to later.

Now, for the purpose of this presentation this morning, the following operative definition of management is used: Management is a function the performance of which requires a way of thinking for the choosing or setting and the achieving of objectives within an environmental situation, through a process of intelligently utilizing human talents and facilitating resources.

The key items in this definition are: (1) Objectives; (2) A process or ways and means for achieving them; (3) human talents and resources; and then the all-important way of thinking about management. In many respects management is a way of thinking, just as chemistry, mathematics, physics, or law are considered ways of thinking.

The first identifiable stage of management theory was the one called scientific management, which sparked the management movement in the United States. As we move into these various states, let me put up here (on the blackboard) the first stage of scientific management. I am not going to bore you with scientific

management--you've heard of that--except to show that this is the point of reference or point of departure. Scientific management was conceived by the pioneers in management theory at the outset of the present century. It was presented as a philosophy or mental attitude with some mechanisms for the intelligent use of human effort. The emphasis was on maximum output with minimum effort through the elimination of waste and inefficiency from human work and from human effort at the operative level of performance.

If you were ever to go back--which I am sure most of you won't--and look at the early writing in this area of scientific management you would find that it was all aimed fundamentally at one major purpose--to separate waste and inefficiency from human effort, thereby getting greater productivity.

The conceptual approach to the theory underlying scientific management was this--a very simple approach. First, there must be experimentation and research in work. Secondly, the setting of work standards by the methods of science. Standards must be established. Third, the scientific planning of work by the managers. Planning was considered to be a managerial function. Fourth, the maintaining of the work standards by proper organization and effective controls by managers. Fifth, provision for cooperation between workers and managers.

The philosophy and the mechanisms or practices of scientific management established the frame of reference for successive management theories. Some present-day scholars and researchers have reinterpreted here the philosophy and essence of it. For the purpose of building a conceptual model of scientific management theory to enable comparisons to be made with some other theory of management, some modern scholars have tended to forget that scientific management theory consisted of both a philosophy and a mechanism, and some of the later behavioral scientists have used

only the mechanism to make a comparison with later management theories.

For instance, Ransard Likierd, in New Patterns of Management, which you may have read or seen in your library--it was selected as one of the five best books on management last year--on page 6 gives this model for scientific management, or what he calls classical management theory. Behaviorals conceive it as this way:

First, you break the total operation into simple component parts or tasks, namely, motion study. Second, you develop the best way to carry out each of the component parts or tasks. This would be the one best way of Frank Bunker Gilbreth, the industrial engineer. Third, you hire people with appropriate aptitudes or skills to perform each of these tasks. If you remember your background, this would be Taylor's concept of the first-class man, the man who was qualified mentally, physically, and morally to do the job. Fourth, you train people to do their respective tasks in the specified, best way. This was a mission of training workers to enable them to increase their earnings through the incentive system. Fifth, you provide supervision to see that they, the workers, perform the designated tasks, using the specified procedure and at an acceptable rate, as determined by such procedures as timing the job. Here entered the time study. Where feasible, incentives in the form of individual or group piece rates are provided.

This briefly outlined conceptual model considers the mechanism of scientific management but it ignores the philosophy or mental attitude that the pioneers of scientific management emphasized when it was introduced into the economy. Some management theorists tend to cast doubt and aspersions on the value of classical scientific management theory by criticism similar to the following quotation, as you will see:

"Classical management theories emphasize that the particular job and work

cycle for each rank and file employee is to be clearly specified, and that he should be closely supervised to be sure that he adheres to the task as specified. Implicit, if not explicit, in this theory is the concept that rank and file employees cannot be trusted to do a full day's work, that such employees will abuse any freedom given them by ceasing to work or by engaging in wasteful activity."

The behavioral scientists today in their research and development of management theory cast a great deal of doubt on this basic classical management theory, and some modern management theorists, after establishing this model for classical management theory that fits their purposes, then proceed to illustrate the virtues of their theories in a comparative manner. They use comparative concepts such as this: They talk about classical management theory versus the participative management theory here, of cooperation, namely, your psychologists, sociologists, and anthropologists.

They have many good points. I just hate to see them make their points by casting doubt or aspersions on what worked so well at one particular time. They will talk about job-centered management versus employee-centered management, or autocratic management behavior versus supportive management behavior, or management-set norms versus the shared norms in productivity. They set it up to an either or an or situation.

Now, when such comparisons are made, it seems only logical that the following considerations should be applied to any suggested theory of management, and in dealing with management or management theory this is a very important approach.

First, management theory should always be viewed in the proper time perspective. What worked in 1900 probably will not work as well today as what we are doing. But, likewise, what we find today in management theory that works well

probably would not have worked too well in 1900. This we find to be especially true when we work with the so-called delayed nations or underdeveloped nations of the world. We find great difficulty if we try to advance or teach them our more sophisticated management theory in the 1960's here in the United States instead of starting with the basic management theories or management philosophy and then gradually building up to where we are at the present time. So that we view management theory in the proper time perspective.

Second, we should view it within the complete conceptual framework of the theory in the time perspective of when it was established.

we should view it

Third, according to the value system that prevailed in the time perspective in relation to the conceptual model that explains the theory. There was a different value system in 1900 than there is in 1960. We view the management theory according to the scale of value or attitudes that are prevalent in the nation at the time that we apply the theory.

Classical management theory, namely, scientific management, emerged over 50 years ago in environmental conditions different from today in the following main areas:

(1) A technological environment that was advancing the industrial revolution in 1900 and not this scientific revolution that we have in the 1960's.

(2) An economic environment in which the United States before 1900 had about 5 percent of the world's population and 7 percent of the land area, and had produced about 15 percent of the world's wealth, not the situation today where we, the United States, have around 6 percent plus of the population of the world, we have the same 7 percent of the world's land area, but a production record of some 50 percent of the world's wealth, and we are running at approximately 42 percent of the world's

income per annum. No other nation among the some 117 nations in the world has a production record such as ours.

(3) A political environment which advocated democracy with private enterprise, with complete freedom of managerial choice for progress or failure. Our political environment provides the best climate for production in the world.

(4) A social environment where in 1900 the educational level of the work force was fifth grade or less, compared with today where 60 percent of our work force is either a high-school graduate or has some college training. Before 1900 about 80 percent of the population lived in rural areas compared with 80 percent in the urban areas today. So there was a different environment of management theory 50 years ago than the environment we have today.

So a point is being made, right now, that management theory is subject to change and that it does change in response to changing economic, social, technological, and political conditions in the environment. And any management theory should be viewed, critized, or commended in relation to the conditions in which it emerges and is used effectively.

Another point is being made that management theory as we know it began with the philosophy and mechanism of scientific management, now referred to as classical management theory. This theory provides the starting point and a reference point for subsequent theories in that it contains, first, a body of management knowledge, second a set of management skills or proficiencies, and always the value system that aided managerial decisions and influenced managerial behavior.

The value system that many of us grew up on for management in the United States came as a result of our being programed in our grade schools, our high schools, around the home, and in any university teaching in our belief in the more

efficient productivity that could be realized from a division of labor or the factory system, or for many of us the so-called Puritan ethics that programed us when we were young, the Puritan or Protestant ethic, if we went to that area, or the teachings in Rerum Novarum of Pope Leo XIII, which was one of the great social documents that gave approval to personal ownership and established a basis for the personal-ownership incentive. We were influenced by what was called social Darwinism or ruthless competition in the belief that if we competed ruthlessly then the strong would always be with us and we would not be hampered by the weak.

on
There were such things as the achievement motives/which now McClellan--if you have read his book and his research from Harvard on The Achieving Society--claims that the economic growth of our Nation or other nations may be more adaptable or traceable to how we were programed in our brains and our achievement desires when we were young from the literature, such as Horatio at the Bridge, or The Charge of the Light Brigade, or the Message to Garcia. We never knew what was in it, but he got there. There was the story of the little boy with his finger in the dike. He should have been at home, but all night he stood out there at his post. Then there was the account of how they took the good news from Ghent to X. From all of these that we were programed with we got the desire for achievement. Whatever objective was set we must accomplish. McClellan has shown the various societies or nations having a great relationship between what the young people were taught in their early schooling and in the homes and their desire for accomplishment or achievement afterward.

So these value systems that we have have a tremendous influence on us as managers and our decision making and our managerial behavior. So some knowledge of

the fundamentals, philosophy, and mechanisms of scientific management is essential to a proper understanding of subsequent management theories in the area of--if you do your reading and you get into this area of management theory, you find these other terms--organization theory or control theory and planning theory, or the management process theory, or decision theory, using this new area of management science, or the behavioral and social-system theory, or to go up into the overall umbrella, the area of management systems theories. All of these came and developed.

A case can be made that all present-day management theory had its seeds in the first identifiable stage of management theory, namely, scientific management or classical management theory, which dominated management thought until about 1930. Then there came a second stage of management theory or management thought which is called organization and system. Starting in the 1930's we began to change our programming and thinking about management and moved in here to a second stage of management theory which is characterized by the name and concept of organization and system.

This conceptual framework requires the concepts of both administration and management, which have caused us some confusion later as to what is the difference between administration and management. But this concept requires both of them. Administration represented the ownership point of view, and it involved two things: (1) the formulation of policies, and (2) the establishment of the organization. This was the era then when we came in and developed to proficiency the line or the line and staff concept of organization, and, secondly, the divisionalized organization, with this concept of decentralized operations with central policy control. This was an adaptation of the Taylor functional foremanship concept of organization.

But Al Sloane, in 1921, faced with a reorganization of General Motors, reversed it and applied it to the top instead of the operative work, and the management consultants for years have been making a good living introducing and explaining this to other firms who need this type of organization because of their growth and success and more complex markets. This, of course, makes use for a great many management development programs through the country.

Once the organization was established by administration policy, the organization became the mechanism of management for carrying out the work assignment through the system, which was conceived of a network of routine, operating, and control procedures. So, administration policy set up the organization. Then enters management. You need the two terms.

Management represented the control point of view to assure the proper performance of work within the organization in accordance with prescribed work standards. The scientific management theories continued to be applied to work at the operative level for the purposes of separating waste and inefficiency from the operating procedures by devising the best possible network of operating procedures or routines.

Now, as an aside, we could say that during this same period, the 1930's-- I doubt if any of you are old enough to remember--military officers or managers of company and field grade used tables of organization, tables of equipment, standard operating procedures similar to the manner in which the industrial managers used organization and system as a way of management thinking.

The vital or organic functions of management were inherent in this organization and system conceptual framework of management. Administration performed the functions of goals and planning for policy, the organizing function and a general

control function. Management performed the functions of leadership--the motivating or the directing and the operative planning and the operative controlling. This organization and system stage of management theory from about 1930 to 1945 provided the foundation concepts for subsequent efforts in organizing theory. This is the time the books came out on organization and on organization theory. That was from two different approaches. You can test yourselves now as to how you think about this.

There were two fundamental approaches in this organization theory. One was the assumption of first establishing an organization and then proceeding to planning and controlling work performance within the organization to achieve the objectives. You establish your organization first and then do your work in it, or in the second assumption we choose or set an objective and then do the planning to achieve it-- design the organization in accordance with the plan and base the controlling function upon the plan. Now, if your thought is the second assumption, then you are well equipped to go into program evaluation review techniques, or PEP, or LESS, or the critical path method, and the new project type of organization or the Matrix type of organization, which is now an extension of the project type of organization, where PERT is no longer satisfactory for many projects and we change from PERT to RAMP, which is resource allocation for multiple projects, and we have a Matrix type of organization which is for the multiple project types of organization.

But, without the fundamental concepts to move in there, we have difficulty in adjusting our thinking to the mission. So, during the stage of organization and system, both organization and management were considered to be separate fields or areas. The major books were entitled Organization and Management in this period. It's horrible now when we look at the books at this particular period of organization and management, because they are all virtually the same. The first chapter is

on the industrial revolution, the second chapter is on organization that briefly designs line and staff, the third chapter gives a definition of system and what system is, and then there are 27 to 33 chapters describing every procedure in detail, down to the number of copies and the number of steps that were ever designed from a plan.

Of course, this was horrible, because, in the schools of business and engineering, we were forced to train on an obsolete product. By the time we had the boys memorize all those operating procedures the world outside had improved and we were constantly having the boys memorize procedures that were no longer applicable. So this didn't suffice or stay very long.

The second thing that came out of the organization and system concept was the control theory. The control theory emerged from this organization and system stage of management. Inasmuch as work routines or procedures were established to carry out the activities of the organization, the main efforts of managers were considered to be those of executive control to maintain the work standards. So at that time the manager did executive control, and there were many books entitled Executive Control. They were in control of the routines or procedures.

Systems theory also had its root in this stage of management.

A third segment of management theory had seeds in organization and system. This was the human relations movement which began during this management theory era and has since transcended into the behavioral science theory stage. Consequently, the value system has been modified to emphasize the ethics of human considerations alone with the work ethics and all dominant materialistic ethics. The commodity concept of labor has become less popular since then.

Now we come to the third stage, which we are all in right now. This is the

area of the vineyard in which we are all working heavily today. This is the stage of management theory here called the management process. An example of this for the Air Force officers is Air Force Manual 25-1. The title of that is The Management Process. This is the one that was conceived and promulgated. This management process theory has been prevalent since about 1945, up through to 1960. This was where the general manager approach to the attainment of desired objectives characterized this third stage in the development of management theory.

During the 1940's the conceptual framework for management developed into this process that could be used as a general approach to the achievement of objectives for an enterprise as a whole or for any portion of it. Whereas management theory had previously been associated with production and personnel, this concept of the management process also was being associated with the functions of selling, marketing, and financing, and likewise all functions in governmental agencies and military operations. The Internal Revenue Service for the past 5 or 7 years has had a very active and successful management development program using this management process as the base.

Management thought became oriented around the identification and refinement of the elements or functions in this management process. The concept of professional management then diminished the distinction between administration and management. Today we use administration and management virtually synonymously unless the author or particular institution gives an operational definition that one is different from the other. But in the literature we have combined administration and management. Either or both are considered as a management process or the administrative process.

The governmental institutional and political pressures on professional

management--when I talk about professional management I mean that managers of our industries today don't own them, they are professionals; they manage for pay-- to justify the existence of private enterprise generated interest in the setting of socially justifiable as well as economic objective for business. The experiences in the war economy and the subsequent period of reconstruction stimulated interest in the planning and decision making functions, because of changing conditions and situations.

The growth of organizations in size and numbers of employees necessitated the study of divisionalized or decentralized types of organization. What is extremely important is that the engineering science and management education program of World War II furthered management theory through this management process, just as scientific management was established during World War I. There developed the concept of management as a process that consisted of definite and identifiable elements or functions, namely--in the process of management you say, "I am a manager. What is my mission? What do I do?":

First, the setting or acceptance of an objective or a goal.

Second, the formulation of policies as guides to thought and actions.

Third, the planning to achieve those goals within the policy.

Fourth, organizing to put the plans into effect.

Fifth, the leading or the motivating or the directing of the people in the organization to carry out the plans.

Sixth, the controlling of the activities in conformance with the plan.

The concepts which were inherent in the scientific management approach and the organization and system framework became sharply identified and combined into a system of management thought or management theory. It is this management

process that is used in the university and the company management-development programs of 3 to 6 weeks' duration today with certain differences of viewpoint. Now there is one very definite change starting in this management process amongst various companies. As you go along here in the process, having given any objective, there is the planning function, the organizing function, and these remain constant. But then on the start of the management theory, where we would have directing or motivating of the people, and then controlling their actions into conformance with the plan, many of the companies today still use the planning and organizing, but instead of the directing or controlling they will use integrating and measuring, measuring performance.

The reason is as follows, and the reason is also influenced by the research in the behavioral sciences. This has more of the management thought, or theory, or attitude of the so-called scientific management or classical management theory where the manager, given an objective, plans to achieve it, organizes to effect the plan, and then directs or motivates or leads his people in the organization to that objective in the plan. Then he performs the controlling function to be certain that if there are any errors that need adjustment he will take the action.

Today in your larger organizations, instead of this directing or motivating the concept of integrating is used, which is one of shared values and participating management. It is believed that if employees are given the objective or the desired result and then left to themselves to have great freedom of how they do their work there will be greater productivity than if the manager tells them the one best way or how to do their work.

Under this concept the manager must be satisfied to achieve the objective, leaving the employees freedom to make many decisions as to the how, rather than

telling them. Then, if corrections are needed, if errors have come in and corrective action is needed, instead of the manager taking the action to do the controlling, the information is provided to the employees, and they then are the ones who take the corrective action to get back on the planning beam toward the objective.

This is the basic concept that is in this Patterns of Management by Likierd, or the concept of supportive management or participative management that comes with a higher educated work force and supposedly a demand now from the employees for more participation or cooperation in the conduct of organizational activities.

So the management process is in, it is established, managers all over are being trained, educated, and coached in the use of this management process.

Now comes the fourth stage. A fourth stage of management thought is developing. This is where you have that individual visual aid. It hasn't got a name yet. We'll call it a conceptual framework of management that indicates the various segments of management theory that are developing and that somehow we must put together. So this fourth stage of management thought is developing from the concept of this management process to a broader perspective of a philosophy which includes statements of the purpose of a business and the ethical beliefs relating to the conduct of business in addition to the management process.

The management process has also been used as a basis for the conceptual framework for a newer theory of management. Thought streams and conceptual contributions from the disciplines of mathematics, psychology, sociology and anthropology are being integrated with the concepts of a management process in a theory of management.

This conceptual framework for the development of a universally accepted management theory consists of certain factors, elements, or functions which can

be identified and combined into a system of thought. Management theory has developed to the stage where it has its own identity, distinct and separate from the other disciplines and subject areas of business. An example is illustrated on this page now which you have as a visual aid. Briefly let me explain it. The area of management that we have here starts with the choice of objectives. The choice of objectives for any military, business, or any type of organization is made within a changing environment in which the economic environment changes, the political environment changes, the technological environment changes, and the social environment changes. So it is extremely important that our leaders, whether they are in business, in government, or in the military, have an understanding of the situation and the changing situation in our environment as to the choice of objectives.

Some of you may have seen the little report from past-President Eisenhower's Commission on National Goals. For the first time, to my knowledge, the President of the United States established a commission to set the national goals for the United States. In there there were eleven domestic goals and four international goals set. Now, if these are accepted, they will have a great influence on everyone else in the United States as to integrating individual business or industry goals or firm goals or university goals with our national goals.

So that we make the choice here somehow of objectives. The beautiful part about our Government or political climate is we do have great freedom of choice or latitude in setting those objectives. This gets done with a process of decision making. Herein comes the whole area of the decision-making theory of management. There are management scholars today, and if you read publications, they say, "Management is decision making." Well, this is a partial truth. But I would submit to you gentlemen that all of you could make decisions all day and nothing would

happen, unless the decision is implemented. I have made beautiful decisions and nothing has ever happened from them, and you may have experienced the same thing. But this decision making is in all of the mathematical models now, the management science and the approaches as to when faced with different alternatives or thinking up different alternatives. Which one do you choose and on what basis? Is it for a basis of health, security, a quantity of something, quality of something, the time, the cost? At least the decision-making theory helps us to be more rational, objective managers, in that it sharpens up our decision-making function and ability. Here is your whole area of your decision-making theory.

Then, of course, your process of creative thinking or the scientific method can only give you a new or better alternative for your decision-making theory.

Coming down here to this next line of the concepts model, strategies and techniques, these would be the mathematical models. These are your strategies of Minimax or Random or Collation here in decision making, or the techniques, your linear programming, queuing theory, Monte Carlo, your various quantitative or management science models, where mathematics is used to help quantify the alternatives.

This is an area where mathematicians and economists are working, saying "This is management." This is decision theory. But, once these decisions are made and the objective is set, I maintain that it becomes necessary to implement those decisions with our old friend, here, which has been established, the so-called management process, so that, given any objective, somehow there must be planning to achieve it, organizing to carry out the plan, and then you can direct or integrate or implement, and then control or measure.

So here is where you have management theory working on this management process, down here in this process of management. Then, just to be sure that we

have all the help and information we need, we have scholars researching on each one of those functions. There is an area of planning theory developing, an area here of this organization theory developing, motivation theory developing, and control theory developing.

So, when we get down here to this organized effort for human performance, this is how we get many people and put together the work, their work functions, their talents and abilities, and their attitude for performance in any given organization. Here is where we have our social systems theory and our behavioral science theory, our participative management, our sociological theory of interactions and beliefs, our hierarchy of human needs theory, as to what causes people to want to work or to do as they do. We have this whole area here of organizational or social system theory.

Then we get down to applying all this. You can call this the firm or you can call it any military unit, or establishment, or governmental agency, where eventually we are working on this overall management system theory, to where we consider today the organization as not an autonomous part but that each part is related to every other part in a system, and that whenever something happens in one area of the organization it has an effect and an influence on every other part of the organization. This gets into your weapon system management or electronics and these areas where there is a complete flow of activity.

Gentlemen, in general, management theory embraces the whole conceptual framework of management, but it is applied to the setting and achieving of objectives by a process which intelligently uses human talents and facilitating resources. Different scholars will emphasize different aspects of management theory. In a short presentation such as this, one must make a choice of explaining in detail one phase

of management theory, such as decision theory or planning theory, or attempting to explain the development of segments of management theory and showing the relationship of the segments to the total conceptual structure.

I have chosen the latter.

It is a pleasure to have been here if for no other purpose than that one which is really my mission in life at the present time. That is that through developing management theory, using management theory, and applying management theory, it is my sincere hope that in our society and in our economy the manager will obtain the same recognition as the doctor, the lawyer, the artist, the engineer, or the scientist for contributing as much good to society as these others. If you will think for a moment, the manager contributes great good to society. It is through the managerial effort here that goods and services are produced. It is through the managerial effort that our standards of living are increased, our standards of health are increased, and it is through the process of management and the efforts of managers, be they industrial or educational or military managers, by which the goals or objectives which we set in society are achieved.

It is my hope that before I die the manager will receive the recognition of society for the job that he has done in promoting and developing our economic growth and our standard of living in the United States.

You have been very patient. Thank you very much.

COLONEL BLACKWELL: Gentlemen, Professor Mee is ready for your questions.

QUESTION: These former stages of development, if I have followed you, Professor, foremost, in my way of thinking, exemplify a general broadening of the definition of a management process. It is a process of becoming less and less a specialist and more and more a generalist on the part of the manager. If I am

correct in my appraisal, what would be the consequences of this with regard to your objective to obtain more stature and professional recognition for this manager? Is this more likely to facilitate or is more likely to impede?

PROFESSOR MEE: Well, No. 1, I think you are right in your interpretation. We both may be wrong, but I think you are correct, in that this development of management thought shows a broadening of the managerial work or activity.

When I said "professional manager," this did not mean that management is yet a profession. It is used to differentiate men in this room fundamentally as professionals, such as a professional engineer, a professional athlete, a professional musician, to differentiate the manager from ownership. At one time virtually all managers were owner managers and they managed by right of ownership. Now a man manages by right of ownership of a body of knowledge, a set of skills or proficiencies in planning and decision making and his particular value systems.

I hope management never becomes a profession, like law, or like medicine. I hope this never happens. But I do hope that the professional manager develops a code of ethics or a value system wherein he will get the recognition for his contribution to society. Now, this is a broadening phase, because from scientific management, where we had the human being doing the work precisely as it was planned, we have since gone into mechanization, we have mechanized a great many of these processes. Secondly, then, we have automated by putting transfer mechanisms and then computers and servile mechanisms. We have automated, raising the need for higher education of our employees and looking at this desired result or objective.

If I get into it today I would like to explain this latest concept of planning called positive thinking. Let me do it right now if we have a minute.

This to me is probably the greatest advance of the so-called manager, if he can do it, of anything we have had so far. It is the concept that, through the gift of the manager's creative imagination, he can take any final event--take Apollo on its launching pad, or any final event--and by thinking backward to the various changes in the environment, all the events--with Apollo there are maybe 20,000 subcontractors, 21,000 prime contractors, 150,000 scientists and engineers, and \$30 billion, you see, all this resource application-- if done, will cause this final event to happen, so that the final event generates the causes which bring about its own effectation.

Now, try and do the Apollo Project by sheer decision. I can't conceive of getting Apollo or any other missile off by sheer decision making. There must be this positive thinking projected in this man's imagination on that which is desired, so that by positive thinking he can then bring it to pass.

Of course this brings in your CPM, your critical path method, your PERT network and all of these projects that will come up to this final event. This is a tremendous thing. We need to be very careful in the future, because I am sure that men like you in this room and other managers will be so adept at achieving any given objective through our planning and positive thinking and our managerial ability that what we just have to be awful careful of is that that is the final event we want when we get it.

I am sure we will be able to get it. Our only worry will be that maybe we wanted something else instead of that. Here is the important thing.

QUESTION: Sir, it appears that most of your discussion centered around management theory on your prospective economic organization. How much corresponding theory is there on things like government and the military? I don't think

you mentioned the military one time in your discussion.

PROFESSOR MEE: I'll bet you if you want to bet. I'll bet the tape shows that I did mention the military. But go ahead.

STUDENT: It appears that there are certain statutory differences in the Constitution, for example, in Congress, the President, and the Departments. Is there a corresponding application of this or a more simplified theory, in a way, because it goes toward the broader problem of government?

PROFESSOR MEE: It was my hope in this presentation, and apparently I didn't achieve my objective, of making a demonstration or a presentation that management theory has a universal application, whether it be to an economic institution, a social institution, a governmental agency, or any military unit, from the standpoint of the setting of the objectives. I also pointed out in the conceptual framework that objectives must be set within economic conditions and environment, economic and political. Here is the political--there are certain laws that affect the Internal Revenue Service, the same as they do the materiel commands of the Air Force. But there are certain laws that affect the First National Bank in Evansville. There are laws that affect the First Savings and Loan. We are all subject to economic limitations, political limitations, technological limitations.

Suppose that Apollo here is waiting for many scientific breakthroughs. It's a technological limitation.

It was my hope to show today that management theory is just as good for you in the Army, the Navy, the university, or wherever it would be, as a way of thinking on a process of achieving objectives within an environment by the intelligent use of people and resources.

Otherwise we get into that horrible situation of having to have marketing

management or artillery management or Air Force management or ship management. This is what this engineering science and management training program during World War II virtually demonstrated--that in any activity there is this management process or management theory.

That was my hope. I don't know whether I have answered your question or not. But if there was any doubt about it I thank you for asking the question so I could clarify this, because I was very careful to mention the military several times.

QUESTION: Professor Mee, could you give us any information as to the status of management theory in Russia and even possibly Red China, with particular reference to their progress on project management?

PROFESSOR MEE: I wish I could. I can tell you only one thing that surprised me. This is a very unsatisfactory answer to your question. In research on the development of management thought and theory, especially after the Russians put up Sputnik, we questioned how they had this managerial ability to do this, along with the technical ability. When, say, Apollo is launched, there will be an argument as to just which group did the greater job. Did the scientists and the engineers who built the hardware and the flight control mechanism do the greater job, or did the managers do the greater job, who put 150,000 scientists and engineers on it and combined 20,000 subcontractors, and all this? Which group did the greater job on launching the missile?

Surprising as it is, we found that at the same time that the scientific management movement was emerging in the United States, and on this the first book came out in, say, 1903--if any of you have background on this, it would be the book called Shop Management, by Frederick Winslow Taylor--starting the management movement in the United States, in Poland one of the first management philosophers or

theorists, a man by the name of Harold Adamecki, developed what he called the Harmonogram--it was harmonization of labor or effort--and presented it to the Society of Russian Engineers for use in the rolling mills in Russia--in 1903. If you will look at this concept or theory of Harold Adamecki's Harmonogram, it has got the seeds in it of this PERT network or this critical path method that we are using so effectively today, and to which we give some credit for the speeding up of the Polaris missile.

If we think that Russia didn't have access to these same theories of management at the same time we did, we are fooling ourselves.

Now, I didn't answer your question as to what the state of development is today. All I know is that they started at the same time we did with the same concepts. Whether or not they have kept up with us, or what they have today, I don't know. What I do know is that anything that is ever written here they have access to.

QUESTION: Many authors say a divided function of managers is planning, organizing, staffing, directing, and controlling. Would you comment, sir, on the significance of staffing not being on your list?

PROFESSOR MEE: Yes, sir. This comes up. It's a question of how we break it down when we start identifying in any area what it is composed of. For instance, right now I ask, "Gentlemen, how many chemical elements are there?" I start down the row. If you are not careful, you'll give me the number of chemical elements when you took chemistry and I'll know just what your age is. There were 88 when I studied it. It was much easier then. When I left Indiana University there were 103. Now there may be more this afternoon.

You start breaking anything down into its elements. So this is a good question.

If I thought of asking you to ask it beforehand, I would have. I appreciate doing it. Now we start into what the functions of management are. We sit down and we start to think this through. We say that once we set some objectives we must do some planning. We've all studied logistics and planning and we believe in it.

But, now then, somebody says--and there are some management authorities that say-- "Yes, but, before planning there must be forecasting." Now I've got someone who says we forecast, plan, and then organize. All right. But then others say, "Well, to do the planning you have to have the forecasting in it." Now we come to organizing. Here you have your concept of organizing. We know that it consists of work to be done which comes from the plant. It's assigning people to the work in some work place. So, in this organizing some authorities consider this to be the determination of work functions and the relationship, like setting up a PERT network here. Then other say, "Yes, but then you have to put the people to it." So then we have to do staffing. This is Harold Kutz, of Kutz and O'Donnell. If you read Kutz and O'Donnell, you see that it is going to be planning, organizing, staffing, directing, and controlling.

But then, if you go to the East Coast, to Columbia University, and read Newman, of Hill and Sumner, he would say, "No, it's planning, organizing, assembling of resources." Just the staffing won't do. He wants assembling of resources, which are the human resources, the typewriters, the tanks, the planes, or whatever it would be. Then, if you are in the Air Force, you'd come up and say, "Ah, but you forgot coordinating. What do you do but coordinate?" After you did all of your work and your staffing and your resource assembling, and you started directing, motivating, or leading, then you coordinated the people and you got down here to

control. I know where the Air Force got that coordinating. Whoever wrote Manual 25-1 was influenced by Henry Bayou, the Frenchman. Those of you who know your French will say, "What is the French word for planning?" They have recently taken our American word. There was no word in French for planning. They had a word called "prevoir," which meant to see ahead.

Now, if you do a fuzzy job of planning, even yet, merely by seeing ahead, sort of a sloppy planning job, there you are. And the Air Force provided for this. (Laughter) I didn't mean it that way. There goes my commission for sure, now. I still hold a commission in the Air Force Reserve. In this they added the preexecution prior to the execution. So if you don't do a precise planning job as we think of it today and then you get down to the point of execution, then you must do some coordinating.

If you will go out here to your library or research laboratory and start tracing down the meaning of coordination, do you know what you are going to end up with? Planning. It means planning at the point of execution.

So Bayou, because of the French concept, which was there as prevoir, had to use "coordinate." If you will take Air Force Manual 25-1 and make a study of what is under "coordinating," you will find "communication." Everything in this coordination is communication down to the point of finding how they can get the work done at the execution in accordance with the plan.

This is a long, roundabout way of answering your question. I am merely showing that different authorities will break this out differently. Now, other authorities are adding one that I think is very important. This will be planning, organizing, integrating, measuring or controlling, and innovating. It is the manager's job not just to run this cycle around through time and to do a good job

of what is being done now but constantly there must be an input of an improvement factor here--innovating through creativity, or this positive thinking, or the improvement.

As Kipling said, "They copied all they could follow, but they couldn't copy my mind, and I left them sweating and stealing, a year and a half behind."

This is an attitude here.

QUESTION: You haven't had a question from anyone in the Air Force.

PROFESSOR MEE: I was worried.

STUDENT: I find it a little bit embarrassing to sit back here between two or three naval officers, too. My question is: Recently I have found out that there is very little going on in industry for training men in management. What is being done in universities on training management?

PROFESSOR MEE: I was so happy to see you up there as an Air Force brother but now your question sort of hurts my feelings. I happened to make a slip here that I didn't mean, but I understood you to say that there is not much going on in industry on management training.

STUDENT: Formally. I recently did a little study on this, and I found out that there is very little going on in industry of what I consider a formal manner of training managers. There is a lot of haphazard stuff going on and seat-of-the-pants operations, but I don't consider it ^a formal program.

PROFESSOR MEE: Apparently you and I have been moving in different circles. My experience has been different. I will cite the firms.

STUDENT: Doctor, I can think of several big firms that have no program at all.

PROFESSOR MEE: I agree with you, and I can name several that have got

terrific ones. There are 4,750,000 business firms in the United States. About 10 percent of them are corporations. Let me name some firms that I think have as good a management development program as we have in the universities. There are about 42 colleges and universities in the United States today that have anywhere from a two-week to a two-year program. I think you know the colleges and universities. They are all the way from Columbia and Harvard to every one of the big ten universities, to the Pacific Coast, to Texas Christian and South Carolina, and they have these programs.

Now, there are firms such as Socony-Mobile Oil Company, Mobile Oil, Texaco, Firestone, Goodyear, right down to U. S. Gypsum, Quaker Oats, Gary Works of U. S. Steel, which have a continuing program. There's Prudential Life Insurance, Travelers, Metropolitan Life Insurance. They have programs with their managers constantly in training, with formal programs, many of them on university campuses. In a three-week program, two weeks are devoted to this management process on which I made my presentation. This management process is virtually the backbone of your university and firm management develop programs. There are two weeks on the management process and one week on these environmental conditions--the economic, social, technological environments.

So we have to get together to compare notes, I suppose I happen to be acquainted with them, because those are the firms I have worked with and are acquainted with that have excellent programs. But I agree with you. You can go out and find some that don't. Here is where some firms are banking on training managers that they are going to need in the future. Some firms are saying, "That's too costly. We'll just get them through an executive placement firm." This is their choice. They may be mistaken.

COLONEL BLACKWELL: Gentlemen, Professor Mee will be around to visit the various seminars this morning, so you will have a chance to question him further. Professor Mee, on behalf of both the faculty and the students, thank you for a very informative morning.