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EVOLUTION OF MANAGEMENT THEORIES

Dean James L. Hayes

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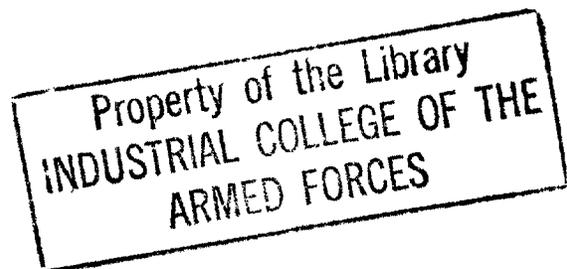
EVOLUTION OF MANAGEMENT THEORIES

17 September 1962

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Reporter: Grace R. O'Toole



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COLONEL INGMIRE: Gentlemen:

Today we begin the Management Section of the Foundations Unit. During this section we will examine some of the current thinking and techniques germane to the broad area of management. We will thus build a platform for the understanding of the important elements of U. S. industrial position and economic strength.

Whether management be considered a science or an art, it has become a field of controversy. Regardless of which it may be, men in positions of authority must develop a personal and an encompassing philosophy, an approach which will serve as a foundation for the job of marshalling resources to accomplish the objective effectively. They must understand the new answers of managerial techniques, so important to success.

To open the series of lectures on management, we are fortunate to have Dean James L. Hayes of the School of Business Administration, Duquesne University. He will speak on the Evolution of Management Theories.

Dean Hayes, it is a pleasure to welcome you to class for your second lecture.

DEAN HAYES: Thank you very much, Colonel. Members of the Faculty, Visitors, Gentlemen:

If I were to start with a review of the theory and go back into ancient times and bring it up to date, I am sure that I would miss a good part of accomplishing my mission. A second note is that normally, when I talk, I very much dislike

speaking from notes , from a paper, or from anything of this sort, but in reviewing a certain part of the theory, I will follow my notes, only because I want to keep it short and get into what I think are the overall philosophies of management which I am able to identify.

I could go back into ancient times and tell you that there were managers or administrators. I think you know this. The one that always strikes me as most unusual is the thought I have of reading the Bible about the very early times, and I come to a thing that I can identify as the agricultural adjustment act of I would guess around 1700 B. C. in which they established an ENG, which I would call the Egyptian Normal Granary. You will recall that there was a ruler at that time who had a dream, now popularly referred to as forecasting, and on the basis of this he appointed a Prime Minister who had the highly unrealistic characteristic of being of the opposite political party, and found that by projecting 14 years into the future they could set up a normal granary for seven years and then have a method of equitable distribution over the next seven years. Of course, the highly unusual portion of this story to me has always been that this Prime Minister held his relatives at length for quite a while before he even let them in on the act. So I just pass that out for what it's worth. It's probably one of the most unusual administration stories in history.

But, seriously, this reminds me of a story of the little boy who came home from Sunday school. His father said, "Well, Johnny, what did you study today?" He said, "Dad, they told us about the flight out of Egypt, about Moses leaving Egypt." The father said, "Wonderful. How did that story go?" Johnny said, "Well, you recall

that the Jews wanted to get out of that area because they were being persecuted and there was a lot of discrimination in those days. So they started to move out very quickly. They sent scouts out and some of their undercover people, who prepared the way by getting over toward the Red Sea. They moved ahead with an advance guard. Meanwhile they found that their rear was being followed by the Egyptians. They got up to the Red Sea and Moses ordered out his engineers. They threw up a pontoon bridge and got over on the other side, just as the Egyptians came up behind them. Then Moses sent the frogmen and the demolition squads back and they blew up the bridge. And there they were on the other side and the Egyptians couldn't get them." The father looked at him and said, "Now, Johnny, is that the way the teacher told the story?" "Well," Johnny said, "no. If you ever heard the way she told it, you'd never believe it."

So I'm hoping as I tell this particular story that you will believe it.

In looking back over some very old notes--and they really are--I have some thoughts here that I think go back to ancient times that are still very applicable, because I feel that much of what we are doing in the field of management is very, very recent and young. I haven't found anything that I would really believe I could call a mature idea. I can't think of a single mature idea in management that we have yet discovered. I think our science is that young.

There was a discourse Socrates had, and he made the following observations, supposedly. He said, "I say that over whatever a man may preside, he will, if he knows what he needs, and is able to provide it, be a good president. Whether he have the direction of a chorus, a family, a city, or an army, is it not also the

duty to appoint fitting persons to fulfill the various duties, to ~~punish~~ the bad, and to honor the good? Do not, therefore, despise men skillful in managing a household, for the conduct of private affairs differs from that of public concerns only in magnitude. In other respects they are similar. So what is to be most observed is that neither of them are managed without men, and that private matters are not managed by one species of man and public matters by another. For those who conduct public business make use of men not at all differing in nature from those whom the managers of private affairs employ. And those who know how to employ them conduct either private or public affairs judiciously while those who do not know will err in the management of both." Socrates.

Chris Argyris

I think if we had taken the name out of there you could have put ~~Chris Argyris~~, *Lyndal Orwick* Linerwick, or any other name on that and it would be quite applicable, because one of the most common attitudes I find in talking about the theory of management is that many people who listen hear some of these things referred to from an industrial point of view come up with the attitude--"But our business is different."

I do have the happy occasion to associate with enough government bureaus to find it quite often reflected that government managing is different. So that you will completely understand me, I don't believe it is.

Well, to get up to recent times, there is a quotation Thoreau made: "When is this division of labor to end and what object does it finally serve? No doubt another may also think for me, but it is not therefore desirable that he should do so at the exclusion of my thinking for myself."

Now, this observation, made by one of our American transcendentalists,

certainly gives a base for much of the thinking that has come into management. I think it's one of the things we have to carefully distinguish, that in looking at the whole history of management theory, the development of it, there are certain evolutionary conflicts which are still with us. The first, it seems to me, is that of the practitioner versus the theorist. The man who is practicing likes to believe that he is making things work by hunch or by an unusual gift that he cannot explain nor can it be explained. The theorist--and this, of course, we will explain in just a minute, starting with the early pioneers at the middle of the 19th century and the turn of the 20th century--believes that through careful observation and induction, mostly, you can see a number of similarities in the way enterprises are conducted, and that on the basis of this you can formulate reasonable judgment as to better ways to conduct these occasions.

So I find that the practitioner has always had some difficulty in accepting theory, and I would like to point this out as we go through some of the evolution of the theory, that the practitioner has been slow to accept the theory, strange as it may seem. Yet at the same time it is the practitioner that has been evolving a good part of the theory through his practice. Strange, but true.

On the other hand I think we have to look very carefully at the theorist in this field, in that very often he evolved a kind of thinking which he is not strictly sure will work. I think there is a very good case of this in Mary ^{Parker} Baker Follett. She looked at observations, not being a business person herself. She just looked at this, and she said, "Here are some things that are evident as I see them as a little bit of a social worker." Her observations turned out to be extremely correct.

that of

The other contradiction I would have you watch very carefully is/the economist versus the practitioner. The economist historically has been preoccupied with the political economy. It might be noted very well that even a great number of modern economists have not really bought business enterprise. It exists almost in spite of them. I feel this is very important, that there is a tremendous gulf between the wonderful economists--and we need so many of them--and the practitioner of business. I feel that the difference is typified almost by one word--risk. I think the economist has never really sensed the meaning of the word "risk." And I think that the risk-bearer, called the business man, has never really sensed the economy. It's a strange contradiction. I point it out because there is a great deal to be said about it.

The place you will see this showing up in the history of management is that many of the observations on management, and some of the strongest condemnations of management, have been made by economists. I can start away back at Adam Smith, who had not the slightest use for business men, being, of course, at that point in history, only a mid-point in a long line, through eternity. The thing about it is that we can come up to the modern studies--and here I am very sensitive and biased--on schools of business recently made by the Carnegie and Ford Foundations--which were made by economists, and no one in the business world expected them to turn out in any different fashion from the way in which they did.

This is very right, and this conflict is still with us. These are wonderful conflicts.

I think the next one is man versus the organization. There are some people who

have come into what I call the mechanistic philosophy of management. Here I think we can typify these very largely today, right as we are sitting here, the people who are very involved in computers and have a notion that finally we've solved the problem of the manager by the computer. Probably exactly the opposite is true, that the computer will show us the need for much, much larger managers than we now have. But the danger in the present computer approach is that of a mechanistic philosophy that denies the individualism of the man.

You see this, unfortunately, in much of the writing that is going on today, where there is sometimes very thinly veiled the thought that maybe the computer will finally do away with humans. This is wrong. This is a conflict, and we haven't even approached a solution to it yet.

Let me continue that one, man versus the organization. Just so some of my friends who have heard me before won't think that I'm lost in this subject--which I might be--I'd like to get back to man versus the organization and come over to the blackboard and typify for you an organizational factor that I think is very important and which we'll pick up in the history.

If I might have the opportunity to put you in your organization, let us suppose for a minute that you have hired or inherited (and there's a difference) three people, A, B, and C. I find that there is a strange comprehension of this kind of organization and it has existed all the way through the history of management. In many a company that I have the opportunity to visit I say, "Are you organized?" They say, "Boy, are we organized! Look at our chart." The fact here that we have to detect as an error is that they believe that the chart is the organization. The very large

organization member says, "Boy, are we organized! Look at our manual. Boy, are we organized!" I think we have to sooner or later arrive at some of the thinking that started very definitely before Taylor and came up to the present day--that organization is a mental concept, evidenced sometimes, and very often, in the best fashion, by charts and manuals. But just to carry this through, I think the simplest concept we have to have of the manager is that the efforts of A, plus the efforts of B, plus the efforts of C, plus you, equal what? The objective, or the mission. This seems to be the simplest concept we have of what organization really is, and I don't know of any historical contradiction of this basic thinking.

There are two corollaries that have become important and have been in the literature for at least 100 years and yet are not widely accepted, but are still, in my opinion, quite valid. If you don't have an objective you can't possibly be organized. You may have people working for you, you may have a table of organization, you may have a chart, you may have a payroll, and you may have a personnel roster. These are peculiar manifestations of an approach to people, but they have no concept of organization built into them necessarily. The absence of an objective almost decries the notion of an organization.

I think the second corollary is equally true, that if either A or B or C or you, or a combination, does not know precisely that for which he is accountable, the sum total cannot be the objective, except by coincidence. I think this is very important to our basic thinking today about the theory of management, because there is a wide acceptance today that you allow A, B, and C a wide range of operation and that at the end of the year you evaluate how the thing incidentally made out. The result of this

has been a trend to what we call functional blame. "Why didn't we make those sales?" an industrial firm will ask. "Why didn't we convince those people?" You'll find functional blame involved which says, "Well, the sales department goofed." I wonder if you hear the protective notion involved here. The thought is, "You can't fire all of them." No one has the burden of having failed, but rather we have a functional loss. This has become one of the best coverups on the person who does not comprehend the real job of the manager, which is to find out who failed and what he can do to help it. This sense is lost on many managers.

Now, to carry this through very quickly and then get right into the main portion of how this evolved out of history, let me typify three jobs here. These are differential symbols; they are not quantitative. Here are three jobs--just to show you the equation working out. Let us say that A is a good man, has always does his work and gets it done on time. We'll typify it that way. B is a new man. He has growth potential. He has not realized it yet. He has a long way to go. But he has made manifestations of a good job. We'll show that that way. The part he is not doing we'll call X. C is an oldtimer. He never has done his job, but he has been retained in the organization--very sensibly--through a series of successive raises in pay. And, very sensibly, this man concludes that, since he has been rewarded, even though you say he isn't doing his job, his logic is better than yours. The part he is not doing we'll call Y.

The first question that arises and that gives a quick hint to where we are going, is: Who is doing X and Y? The conclusion is rather simple. You are. The parts about this that are rather frightening are that you are enjoying it, because it is the

tendency to revert to the position in which you once found yourself that gives you security in the job you now hold.

I always tend to lampoon the Vice President in Charge of Engineering, who goes around his organization with a slide rule in his pocket. He has the enormous computations to make, such as change for coffee and a few things of this sort. If he is doing the vice-presidential job, his slide rule days are gone, they're over. Why the slide rule? The feeling deep in his heart is, "If I should not succeed as vice president I can always return to engineering if I keep in touch." It is this uncertainty in the field of management, and a lack of comprehension of what his real mission is that force him to revert. I don't think I have to extend all the evils of reversion that come into management theory, that have been typified in the literature, again, for 100 years.

This is the conflict of the man versus the organization. Somehow we haven't seen this yet. We really haven't come to grips on this. The thing that I think is rather interesting to watch is the evil effect of this, where we get a growth at the top that is spectacular and a kind of quiescence at the bottom. I typify this by having B come up to you and saying, "Sir, here is a situation we have out there in the field. What do you think we should do." C says, "Oh, yes. Well, in light of my 18 years' experience, I think the way you ought to solve this is thus and so." B says, "Thank you very much." He comes back in in a few days and says, "Sir, do you remember that situation I described to you out in the field?" You say, "Yes, the one that had to do with thus and so?" He says, "Yes, that's the one. It didn't work."

I wonder if you noticed who made the mistake. He's sure you did, because he

asked you for your opinion and he got it. You have lost here and the literature has shown this over hundreds of years. You have lost the development of the subordinate. And worse than that, there has developed a whole new human relationship which you cannot recognize.

This morning it has already been asked in your office about this guy. Someone says, "Where is he?" C says, "Well, you know, he's gone over to the Industrial College of the Armed Forces for the continuation of the course, and he's going to be on management right now." B says, "Boy, does he need it, with some of the decisions we have been getting recently."

In other words, the whole philosophy that has to do with the development gap is only coming into its own now, after many years of indication of the existence of this kind of thing.

Then the thing I like to observe is: "Keep your eye on rB., because there is a future manager, following the definition that he is truly getting things done through other people. This is an amazing thing that's happening in just about every organization I see.

This is the conflict of man versus the organization, and we have not solved this one yet.

The other conflict I would quickly point out to you is the one that has to do with management versus other sciences. You see, political science could have been the background for the development of management theory, very easily, but, because it was interested in compartmentalization, it didn't get to the point of bringing them together and looking at the field called management as one worthy of

exploration. So the other sciences for a while will be in a degree of conflict and have been historically. But the interesting part is that many of them are now trying to get into the field and have historically. They say, "It is ours." This is typified today, I think, to the greatest extent by two groups--the psychologists and the mathematicians--and yet each is making a tremendous contribution to what will be the total picture.

Well, to get back very quickly, I think the science of management, then, as we know it in some of these concepts had its beginnings in such people as Robert Owen, Charles Babbage, Henry Towne, and Captain Metcalfe--Henry Metcalfe. For this part, if you will forgive me, I am going to look at my notes, because I want to get through this and stress just what they did in the theory.

The theory started to evolve, of course, out of the point in history that we reached in the industrial revolution. If you think back just a little bit, managers were solving problems before they knew they had them. This isn't unusual. This still happens, that managers engage in solving problems which they can't identify. As a matter of fact, one of the strangest things that happen is that managers have a tendency to spend 50 percent of their time creating problems and the other 50 percent solving the ones they created previously. This still exists. In my own shop some professor bounces in and says, "Dean, I know you are working on this problem. Would you let me take a crack at it?" I'm not sure he can solve it, but I think, "What's there to lose?" So I say, "Go ahead. Give it a try." He solves it. It's only upon mature reflection that I find out that he should have been able to solve it--he created it.

This is very interesting, because, following, then, a theory of motivation which we have today, he has to be recognized and rewarded for the solution. What is the tendency, therefore? Create them. This is the way you get your reward. This is happening almost imperceptibly in the whole field of management.

Of if you will allow me to use one of my last homely illustrations, but one I think is just as true as the day can be, I'll show it out here in just a minute. I like to tell the story about what happens in our house. Of a Sunday afternoon we like to go for a ride, my wife and I and two children. We get in the car, back out of the garage, go downhill--which is one of two directions you go in Pittsburgh--and get up to an intersection. When we get to the intersection, I turn to my family and I say, "Well, where would you like to go?" They say, "We don't care." So I turn right, and somebody says, "Aw, what are you going this way for?" Does it happen to you? Now we have learned to stay in the garage until by a democratic process my wife determines where we are going.

Let's apply this to our managerial situations, because here again you can see this in the literature if you are looking for it. When we leave the garage in the first illustration, every person in the car has a distinct objective. Man cannot live without an objective. No subordinate coming into your plant in the morning can come in without an objective, his dream of where this function should go. So everyone in the car has an objective. My wife says, "I hope when he gets to the intersection he goes out into the country away from people." My daughter says, "I hope he turns to the right and goes by the shops." My son says, "I hope he turns to the left and goes by the Zoo." Now, the greater the distance from the garage to the point of

decision-making the deeper the personal conviction becomes that this is where everyone ought to go. They start out by saying, "I hope, I hope, I hope, I hope," and someplace in the distance it becomes, "He must, he must, he must, he must."

At this point we have what is known in the literature as participation. I say, "Where would you like to go?" It's a committee meeting, a conference. There are many psychological elements involved here, which you can recognize quickly. For instance, no one in my family has had a single course in management, but they all know enough not to be the first one to make a suggestion. No. This opens the discussion on your topic, and your chances are comparatively light, unless it's an outstanding decision that's easily recognized. But, if it's a real, open discussion, you haven't much of a chance if you're the first one.

Now, I could go on from there, but I want to get through this point. So, believing that they don't care when they say, "We don't care," which is only a manifestation of a temporary attitude, I act and I make my managerial decision to turn to the right. And then someone says, "Aw, what are you going this way for?" This is typical in my mind of what might be called a variety of a morale problem.

I believe that we have had from very early days, particularly, identifying this with the Gilbraiths, a tendency to confuse this word, "morale," with conflicts between personal objectives, long nourished, and managerial decisions too long delayed. Just to bring the one point--in setting an objective, it seems to me that the literature has shown continuously over a point of time that the objective itself does not have to be actually realized. Now, I have to say this with a grain of salt. We hope it will be realized. It's the best we can do. But that you get there is not

the essence of management. The setting of the objective is important so that the people on the team when they leave the garage know just exactly where they are going and can make the marvelous decision of whether they want to go or stay home.

There's a whole variety of things that we have, of what I call forced retirement at 50 but continuing service to 65. This is based on the theory that too many managers have the thought, "Well, let's wait and see. We'll cross that bridge when we get to it. We don't have all the facts." This is one of the most dangerous ones. The manager must make a decision, the best decision he can, for the psychological advantage of getting to a point and avoiding other problems. This is the distinction between the problem-making function and the problem-solving function.

You see, it was Robert Owen, in a famous address to the Superintendent of Manufactories, as it was then called, who gave us some ideas, around 1813, that were really revolutionary. I think really he could be called, if we took apart his works, the father of personnel management, in a sense. He believed that the quality and quantity of output are influenced by environmental conditions. This was 1813. Yet I suspect that most people who read the literature are so impressed with the beginnings of the "Robber Barons" up through the middle of the 20th century, practically, that they have ignored the fact that here was the beginning of something, away back there, that is going to be continued. It's going to be lost a little bit and then it will be picked up again. His one thought was that environmental conditions are very important. So you can draw a string from Robert Owen almost up to the Hawthorne studies, and you get a very interesting picture.

Charles Babbage, who was probably better known than Robert Owen, in 1832 wrote on The Economy of Machinery in Manufactures. This was one of the first studies ever made on factory management. The interesting thing is that the first attempts at management involved the manufacturing process. Why? Because in the industrial revolution, you see, this was one of the best manifestations of groupings of people for a single objective, aside from the military. He wrote, extensively, I think, on the general principles of organization, for instance. I am just going to read these for you, if you don't mind.

He distinguished between technical skill and managerial skill. The world is still full of people who haven't. There is nothing in the training of an individual, be he a lawyer, a professor, an Army man--it makes no difference, whatever your background training is--that in itself makes a good manager. The ability to manage is completely separate from any vocational beginnings you may have had. But of course it must inhere in a person who is in the organization long enough, through vocational application, to become a manager. And yet it is surprising the number of people who will still follow the philosophy of what they call management appointment, It's prevalent in many industries and in some parts of the Government. It's based on the simple theory-- outlive 'em. If you are the top man and you are the oldest man, you're the manager.

This is not a valid face, and Charles Babbage pointed this out well over 100 years ago. He also highlighted the first application of inductive reasoning. He was one of the first people in history to say, "This thing called management is subject to observation. You can observe and from it you can draw conclusions." He made a

remarkable organizational survey of getting the facts before he changed a small organization and made some recommendations. We see some descriptions of a chart and position descriptions. They are most interesting to see. First he had a check-off list that was most interesting, of all the things you ought to ask yourself before you make a decision. Now, I'm not saying that we have to formalize it to the extent he did, and yet a lot of good management has been formalized, and rightly so.

He drew a chart, one of the first charts we know of, aside from the military. He centralized planning a little bit, and he noticed that control and planning are two sides of the same coin. He had a remarkable observation, one that I like, and that was, "Unskilled workers should do only that which the skilled workers can't." I would like to point out that we still have some very highly paid unskilled workers. We still have people who are dabbling in their subordinates' skills when they are being paid to do the managing job.

He went on to talk about production and human relations, and some of these other things which I am going to skip over quickly. The thing that I am interested in here is that there are indications that in 1832 he had already drawn on the French in getting this background.

Then we come up to Captain Henry Metcalfe. For those of you who want to take a kudo on this one, you recall he was associated with ordnance. He wrote a famous paper on the cost of manufactures and the administration of workshops. He stated very flatly in that paper around 1885--and notice a 50-year lag here that we so far have in the literature, and for 50 years this stood still--that there is a science of

administration. The debate then and now will still be, "What is a science?" He said that management or administration is based on principles that can be applied to a variety of areas, and he pointed out very definitely, as an Army man, that administration was not confined just to the military. Being a graduate of West Point, he pushed this very strongly in Ordnance at the time. There are plenty of papers to show how well he did it, and, incidentally, when he tried to apply it to certain areas, he was resisted, which is still pretty standard for the course.

Henry Towne, President of the Yale and Towne Manufacturing, wrote a paper, The Engineer As an Economist. Here you get the loose wording of the economist, but you begin to see a shading from the political economy, now, to the engineering economy coming through. This to me is why Towne is rather important to study. He wanted management recognized as a distinct field. I'll just pick that up at this point. He thought that there ought to be--and this is his important contribution--an interchange of information, because, up to this point in history, you see, people had ideas, but there was no thought of interchanging with other people. So your observations were confined to a small sample or to a small kind of business, fostering the idea that "Our business is different." It was only when you got the interchange that the A. S. M. E. picked this up and started to do it, several years later. It's when you get the interchange that you see the continuity and the similarity and the uniformity of management.

Well, these pioneers, of course, got us into a situation where they had people thinking. But the normal practitioner of the day ignored them. I think I can finish it right there.

Finally we come to Henry Winslow Taylor, often called the father of scientific management. I think he is universally accepted as such. In his famous studies are Shop Management and The Principles of Scientific Management. Taylor's story is probably as well known to you as it is to me. He recognized management as an activity that could be improved. I think that as we turn to the 20th century this is very important to recognize--that some people are still wondering. The attitude of the manager must be that it can be done better. Taylor had an interesting lure. In his observation he was working in a situation where the push of the worker was to make the job last. The lump-of-work theory was still prevalent, and still is, where, somehow, if you work too fast, or if you accomplish your mission, you're through. You'll notice here the lack of security in the worker's position. There hasn't been a real, dramatic change in this, in the lump-of-work theory. It has been worked in through other social applications.

I think that Taylor has to be recognized as moving into a situation where he was trying to solve the problem of productivity. So he applied scientific methods. He's the outstanding man in our time--pardon me, in the time of some of us--to have applied scientific methods to the solution of factory problems. He set up a series of principles and these have been very largely the basis for much of the modern writing in management.

Here are some points I think Taylor has to be identified with: Functionalization in the United States is directly traceable to Taylor as far as activity was concerned. Functionalization existed before his time, but Taylor is the man who said you had to break down functions into those which people could do well, and not let everyone do

everything. You see, in those days, the worker planned the tools he would use. He planned the attack of the job. He was a completely independent operator. Just to show you the association of this with modern times, Taylor faced the same situation in his day that we face today with the intellectual help we are getting-- the engineer, the scientist, and the research man. He doesn't want to be managed. He by nature was designed to be an independent operator, but there is a security in the organization with which he is associated. But he would like independence of thinking and action but the security of organization. This is one of our challenges today. It was recently pointed out very well by Judge McGregor in an article.

Taylor faced the same situation: How do you functionalize and yet get your organization to work? Incidentally, Taylor went a little bit off the deep end here and made one of the great mistakes of his life in indicating that a man should have about eight bosses. Subsequent history proved this isn't so, but subsequent practice made it so. The confusion of the Taylor thinking on this point led to a line-staff type of situation which, incidentally, we are still wallowing around in just a little bit.

I think the other thing Taylor contributed was that he indicated the proper method for doing work rested with the manager, whereas up until this time the proper method for doing the work was entirely an independent bit of thinking on the part of the worker, and the worker would not admit that anyone else knew how to do it. You see, this was a long build-up from the day of the crafts and the guild system, that the final workman, the expert, was the only man who knew really how to do the job. Even a journeyman never reached this point until he was dubbed a craftsman. Again,

I hope you can associate that with some of our modern problems.

Taylor said it is the manager who must decide what is to be done. Now, for many people who have not thought this through, this doesn't mean that the manager does this exclusively or by clairvoyance. This is where participation comes into the picture. There's a great deal of difference between participation and democracy. Participation does not bind the manager to that in which he has allowed people to participate by reason of authority. Democracy is slightly different.

Management to Taylor, interestingly enough, was an expense, and, strangely enough, it still is. Yet in his day he did not succeed in putting across the idea, because it was distorted, that management had to justify its own existence by the outcome of the activity which it managed.

Again, in a very private group here, I would like to point out that this still remains one of our significant problems, that the right to be a manager is not a God-given right, that you have to prove your worth by the success of the venture. Let me give you a hint as to where this is going wrong, in my opinion--staff services. We are not yet to the point of sharp management, where we say to staff services, "When you have done your job what is the outcome you will give us? Will you change it by three cents? Will you improve it by 10 percent? Will you increase its effectiveness for readiness?" There are any number of approaches. By lacking in objectivity or in the setting of an objective, rather, we find that staff simply says, "We are here to serve you." Then we have this added expense of staff activity when no one wants to be served. It's sort of too bad, but we must come to the day of measuring staff activity. Staff has an objective just as truly as line does. And they

are good, incidentally.

Taylor also provided the foreman with assistants. This is the first time that this had ever happened. This reminds me of a little story about the expert who came in and said to the man, "What are you doing here?" The man said, "Nothing." The expert asked, "What did you do before this?" The man answered, "Nothing." So the expert made a couple of notes and went over to another fellow, and he said, "Who are you?" He said, "I'm his assistant." The expert asked, "What do you do?" He said, "Nothing." The expert asked, "What did you do before you did this?" He said, "Nothing." The efficiency expert said, "That proves that one of these two must go."

There's a lot of this. We still have this kind of thing. This is what some people think is efficiency, you know--half as many people doing nothing. Well, I think here the opposite direction was provided by Taylor--that with assistants you could get from the foreman level down one level and subdivide his work into certain kinds of application and certain kinds of management, particularly planning. I think that Taylor stood for and urged research, planning, training, standards, control, and cooperation.

Coming over to his friend and very close associate, Gant, we find here that he was a close associate of Taylor. I think that the literature that has to do with his break, so-called, with Taylor is exaggerated--either that or I lack a complete sense of journalistic significance. I think the break was overplayed in the literature of the day. Actually, Gant added to Taylor's theory the human element. Taylor, as you probably know, failed personally as a manager by believing that what he had was

so good--and it was good--that you could shove it down people's throats, to put it in the vernacular. As a consequence, he was roundly misinterpreted and roundly persecuted in his own day. This made it very difficult for some of his successors. In my youth the notion of the efficiency expert was still with us. This, of course--and this may be of some interest to you--came out of some hearings before the House of Representatives, in which one of the appropriations bills built in that no method of using a stop watch or other timing device could be built into any job on which this appropriation was used, becauseⁱⁿ the use of observation and timing of jobs his personality just did not put this across.

The thing that has always impressed me about this is that some of the best thinkers in management have forgotten that you can't change a present organization if you aren't there. It seems to me that the continuation of the organization, a phase of motivation, is still important to change. So Taylor typifies this by his own sad life, in a sense. But he was an enormous man in what he started our doing.

In 1910 there came along a man by the name of Russell Robb. I think the thing that I like about him is that managers can learn from centuries of experience. Now, the thought has not yet been fully accepted, but we do find that by going back and studying history, there are certain things that still show up in every management history. There is the kind of organization. This is an important one. Robb will be recognized in the future more than he is today. The kind of organization depends very largely on the results they wish to achieve. If you don't have an objective you don't know how to organize is what he said, in effect.

The interesting thing about it is this, that the controversy that had to do with

centralization and decentralization to me is purely academic. Both have merit for different kinds of people doing different kinds of things. I think to say that one is better than the other is to try a push-button answer so as to make the study simple. Robb points this out very well in some of his thinking, even though the language, of course, is that of 1910.

The other observation I like about Robb is this, that functionalization brings about monumental problems of coordination. I find many a good organization mind that can tell you how to functionalize so as to give people jobs to do. To get back to my chart--they can tell A what to do, and they can tell B what is to be accomplished, and they can tell C. Pardon me when I use the word "tell" here. Use any method you wish. But they still don't know how to bring A, B, and C together. As a matter of fact, they will be so preoccupied with the X and Y up here, the doing of the other man's job, that they won't have time to talk to the subordinates. Many people haven't caught on to that fact yet, and Robb pointed it out. "One of the primary jobs of a manager is to talk to his subordinates. The fellow goes home at night and says, "All I did today was talk." God bless him. All he did today perhaps was manage. This is still a good idea.

Then we come up to Alexander Hamilton Church and Leon Pratt Albert--Church and Albert. Here we find that many people were opposing the efficiency set up by Taylor and the prevalence of this idea in some industries. These two men, doing a joint bit of writing, came up with the idea that there is a relationship--now to jump away back--between physical environment and Taylor's principles. Taylor had somewhat omitted this, although it is in some of his motion studies. These two men

did significant work on that.

Finally we come up to a man that I think is really fine. We come to Henry Fayolle. Now, Henri Fayolle, as we would call him properly, I guess, wrote a remarkable thing in French in 1860. A strange thing--this was not translated into English until 1929, and it didn't appear in the United States in one of our own translations until 1949. Yet this man's works could constitute a modern book on management. It's a remarkable piece of work, one that I strongly recommend to you.

His theory I like very much. I'll just point it out to you quickly. It was that you work from the managing director down. You see, Henry Taylor was working down in the lower echelon, where everyone did what he was supposed to do down here--and incidentally one of Taylor's faults was that he never quite told you what, but he showed you how. This man said you start up at the top and you set the direction. If the top man doesn't know where he is going it's kind of questionable when you have followership. This is pointed out very well by Fayolle and his approach is significant to today.

He noted that the relative importance of managerial ability increases as one goes up the scale or chain, that the higher you go the more the magnitude of kind increases, but kind doesn't change. Let me say it in another way. The man on the top of the ladder plans and the man on the bottom plans. They coordinate. They do all the things managers do. The difference is in the magnitudes of decisions. So you give out not on the ability to manage but on the ability to manage magnitude. And today this is highly significant.

If you train the man down here to be a planner and you train him on the next

level and you train him on the next level, you will reach a point where, as long as his ability holds out for magnitude, he is a planner all his life. The man at the top says, "Yes, let's spend \$5 million on this installation." The man down on the bottom says, "Yes, let's buy another package of No. 2 pencils." Decisions are the same; the magnitudes vary. So you train men for magnitudes by imposing a method at earlier points.

I think Fayolle should be significantly memorialized for this contribution. Just let me read through the list of some of the topics he wrote on: Division of Work; Authority and Responsibility; Discipline; Unity of Command; Unity of Direction; Subordination of Individual Interests to General Interests. Fantastic. Coordination we call it today. The individual interest must give way to the general interest. Instead of that we find in many organizations pockets of particular interest that are more important than the general interest. Then there is Remuneration of Personnel; Scale or Chain; Order; Equity; Centralization; and so on it goes.

I think this Fayolle is a man who has been away undersold, except in kind of a nationalistic pride. In my opinion, in all of the world's literature todate--and there is yet a lot to be found--Fayolle is outstanding even as against Taylor.

Well, we come down to the elements of management, and he said something here that is significant. He said that the manager's job is to plan, to organize, to command, to coordinate, and to control. It's still good, isn't it? It is not too many years back that the National Industrial Conference Board said that the function of the manager is to plan, to organize, to coordinate, to motivate, and to control. The only one that Fayolle seems not to have put a great deal of emphasis on is the

motivational factor.

Finally we come up to a pair I like to regard as personal friends--Frank and Lillian Gilbraith. From my few associations with Lillian Gilbraith I think that she is a tremendous woman. The thing here that is interesting is that they didn't call it, but they actually introduced the psychology of management. They took the time-and-motion-study kind of approach. This was one of Frank Gilbraith's great things. By using the movie to analyze they said that you can look at this thing over and over again and observe and find out how to do it better.

I like one thing about Gilbraith--and it's still true about Lillian Gilbraith--and that is the positive approach to management. What is the one best way? Although we won't have time to explore it, there are a great number of managers who are saturated in the ways in which it cannot be done. They still don't know what is the one best way. This is what their quest was. I think my notes would be incomplete if I didn't point out some of the work that Mrs. Gilbraith is still doing in communication. She is a magnificent woman and is still contributing papers every day. She travels more than almost anyone of us, I believe, in trying to put through the idea of how important communication in the management field is to the success of the manager.

And the three-position plan of Frank Gilbraith was probably the precursor of our modern system of management development--planned management development.

Now, there is a man by the name of Oliver Sheldon whom I'll just mention--1923. He pointed out one thing that is important. That is, management is a whole, is a unity. This we need a lot more of--people who, as managers, are not

particularly impressed by a part of the ball but by the whole ball of wax. I find that a great many people who study management take a little bit of a slice out of this. They learn about planning. Incidentally, I didn't mention the wonderful contribution of the Gant chart. They'll do a Gant chart for you on planning. They will have everything in writing. But they still don't understand that it takes motivation to make this thing move. They don't understand that after you have your plan you control the thing. They are perfectionists on slices but they do not have a comprehension of the whole. This still remains a great defect in modern management.

Mary Parker Follett, the social worker, had the wonderful gift of standing off at a distance and watching how people behaved and from this evolving certain principles. By going back to business men and preaching the principles she found that they all recognized the situation, validating her observation. She said that there is plenty of evidence for the growth of scientific management.

There are many things I could say about her, but in the interest of time--in 1933 her observations led us very strongly down to the fact that we should delegate deeper. This one of the things that she pointed out very well. I feel that her works are sometimes overlooked.

Then we come to George Elton Mayo, well within our time, of course, and linked forever with the Hawthorne studies. He urged a sense of participation by subordinates and thought that there were strong contributions to motivation that could be made by subordinates and also pointed out that money was not the top motivator, which, incidentally, Taylor had been very strong in illustrating. He believed it, and it had been modified and talked about up until Mayo, and Mayo's studies were

significant--the Hawthorne studies.

I'll just throw this in. I think the validity of some parts of the Hawthorne studies is being seriously challenged today, but they still form a broad base for some of the thinking that is going on in research and psychology.

I would be amiss if I did not give you a quick opportunity to evaluate the work of Morris L. Cook. He was Director of Public Works in the City of Philadelphia. He followed out Gant's idea and then later Gilbraith's of a positive approach of trying to find the one best way. The thing I think we should point out for this man who was in public service is that he had a deep responsibility to the public he was serving. His famous little news release, called Plain Talk was a completely new departure in communication. While he followed up on a great number of things that were known and also did a study for the Carnegie Foundation on the Administration of Universities, which, incidentally, has been widely ignored, I think that he is significant for the communications contribution he has made, and he is significant for the adaptation of principles found in industry to government operations.

Luther Gulick, of course, together with Lynn Erwig, ^{Lynn Erwig} has some marvelous material on organization of government agencies, which I recommend very strongly to you. He spent a long, long number of years in research on the application of scientific methodology to public administration. Incidentally, in the public administration sector, the public sector, there are just a whole series of names I could click off which are very important, and their stature will grow, I think, as the history of management comes into its own as an organized kind of thinking.

Now, the most serious drawback that you will have in this literature is the

narrowness of views. Each man worked in a compartment. I would like to point out that in the rather short history, even though it seems long from the point of view of anyone's lifetime, we still have the narrowness of view. We have, for instance, a man that I have a deep admiration for--Simon. He has contributed a great deal to public administration. The interesting thing is that he still has a narrowness of view. ^{Chris Argyris} Chris Argyris today, you see with a narrowness of view. This work is valid, perfectly valid. It's wonderful work and deep research. But the work yet to be done and the challenge of the day is the unity of management. We don't have too many people working on this.

So this is prevalent from the pioneers, starting with the 19th century and coming right up to the present day, that we are still doing segmented studies.

What are some of the current trends that we see? I have mentioned some. I think the strong trend to professionalism is evident. There is an article appearing in the Harvard Business Review at the present time as to whether management is a profession. I have not seen it. Therefore, if you wish to ask me about it I cannot truthfully answer you. But they say it negates this idea. My open tendency is to start with an open mind. My bias is I don't believe it. But I will read it. I believe that there is enough evidence that it is a distinct trend, but its acceptance by certain vocational groups is extremely difficult. We find that the lack of humility on the part of certain professional people makes it very, very interesting when you try to get management into some areas.

I think we have to watch the explosive growth of science and technology. I don't think managers have to know a lot about it. I think the future does not say that the

manager has to know about science unless vocationally he was trained in science. I just think it means that the manager has to know a lot more about the thing we have thought he always knew. He has to make better decisions. He has to have forward planning. He has to think of 20 years instead of 10. He has to think about today's plan being at least a 5-year plan instead of the old notion of one. He has to know how to use controls. He has to distinguish between controls which are on plan which he more or less makes secondary while he identifies the variations from plan and tries to implement changes to get back on plan. He has to know how to be flexible in planning.

Yet today this trend is only opening up. I think we have to know how to deal with the professionals. This is a challenge. I think line-staff concepts are almost sure to disappear within a very few years. It is not a question of whether line or staff remains. Neither will remain. A whole new concept of this organizational structure will evolve, I am positive. I think it is well on the way. In my particular field--here I am only putting in a plug for something I deeply believe in-- I think the one thing we need to understand and know a great deal more about is standards of performance. What is it that every manager expects of his subordinates when the job is well done? The awful impact of this is the burden it places upon the managerial shoulders at all levels. The greatest thing that could happen to kill this would be to make them uniform for all people holding the same job. I point this out to you because I think it is important for you--that we already have two volumes in the set, one known as charts and the other known as responsibilities. Because they are made across the board and from coast to coast, they have not fully

done the management job. Standards of performance, in my opinion, are standard to two people--the superior and the subordinate. Any attempt to make them universal will only add a third volume to the set for the gathering of dust.

I think that the promotion of the concept of unity is important, the ball-of-wax theory, that we have to look at management as a whole. I think we have to go from knowledge to doing. We have more people today who have certificates in management than know how to manage. Knowing it doesn't mean you get it done. We need more people, such as you, who will go home from here and say, "Let's try to set objectives." I wish that I had more time to talk to you about that.

I think we have to use wider training media. I think the schools of business administration (I am biased) have been under fire for the last 2 or 3 years. This is right. But they are not going to die. As a matter of fact I expect that they will turn in exactly the opposite direction from what they are now doing. We have gone from very specific vocational training to very broad training which you can hardly identify any more. I predict they will go back to schools of administration instead of schools of business administration. I think we will become very practical.

The gap here, the work to be done, is tremendous, because we still have not found out how you bring the exigencies of business which require management application to the attention of a student who has not had this in his experience. Even graduate work hasn't solved this.

Then I think that psychology and math are bringing in a great number of ideas particularly in control cycles, to know how to control the enterprise. These contributions are enormous, and we have to learn what to do with them.

May I just say this? I have run out of time. I haven't run out of notes. This is a fantastic field. I think the thing we have to come to is that, if we cannot identify management as a profession as you know a profession, may I only recommend to you that it is possible, in my opinion, to develop giants--and we need so many of them--who, by learning, see the interrelationships of the various areas of research we are now carrying on in psychology, math, sociology, and anthropology. It is possible to get people who could become as dedicated to management itself as to the management of any particular activity. I like to say it in a very homely way. I honestly believe that management can be an extremely rewarding profession and really a lot of fun.

Thank you very much.

COLONEL REID: Dean Hayes is ready for your questions.

QUESTION: Dean Hayes, you mentioned that the line and staff structure and the organization we know today are dying on the vine and that some new structures are evolving. Will you tell us what those are?

DEAN HAYES: The difficulty with this question is that I have a concept of what is happening but I don't have a name for it. I find that if I use the word "line" then right away there is a defensive mechanism that is like a football game, and staff says, "We lost." If I say "staff," then line says, "We lost." What I think is evolving very rapidly, however, is closer to the old line concept, but utilizing all the expertise of the staff. What I think is evolving very rapidly is this: That we are learning more about delegation. We are also learning about the passing down of

objectives and the relationships between objectives and standards of performance. So I feel that what we now call staff will function almost in a line kind of relationship and will have definite standards of performance for its people and definite objectives for accomplishment. And measurements will take place in this way. There will be a tendency to get away from what I call the roving expert. It will definitely be assigned within an organization.

Now, that is not a good answer, because I have only a concept. I don't have names. Therefore people are getting defensive on names. Let me give you a quick illustration. Back here maybe about a year ago I spoke to a man about line-staff relationships, and I was trying to point out the responsibility that the traditional notion of line has. Incidentally, for those of you who are sensitive to the point, I don't think I acknowledged the tremendous contribution to this whole growth of science done by the military. I think this would be very unfair to skip; because this is a thousand years old.

But to get back--I said to this man, "How about this line idea, that they have, with /responsibility for execution? Staff contributes to line. This is a kind of loose idea." This man raised his hand and said, "I am in charge of quality control. You have pointed out that staff does not have in its pure concept direct authority, except within the staff organization. I am in charge of quality control, and if I find a product defective on the line I stop the line." I said, "Well, sir, in that respect you are line." "Well, no," he said, "(quality control is always ataff."

You see, here we are starting with a name and putting people into it. So I said, "Well, really, sir, you're line." He said, "No. We are always staff in quality control."

I said, "Well, let me ask you another question. Who is responsible for the line output?" He said, "The foreman." I asked, "Exclusively?" He said, "Exclusively." I said, "Let me add a little note. You are confused. I don't whether you see quickly what is wrong here. It's an old conflict. We have a man responsible for an output which he cannot fully control. And another man is responsible for a control authority for which he has no responsibility."

I think we are going to link responsibility and authority more directly in a kind of true line. I don't know the exact ^{extent} but I know what we now have is disappearing rapidly.

QUESTION: Sir, you mentioned that standards should be set between the superior and his subordinate. In the Service we do have a number of jobs that are relatively the same and relatively the same standards are set largely for business performance. Will you amplify a little bit on that?

DEAN HAYES: Yes. May I venture that although they are relatively the same you find that sometimes there are people in subordinate positions who are doing exactly what is required but get different kinds of evaluations from their superiors. Is this a fair statement? I think generally it is. It might not be, but generally it is. What I am saying is that a man's performance, in my mind--and this relates to the whole area that is uncovering and that I am involved in, of appraisal--is correct or incorrect in the mind of his superior only insofar as it coincides with a preconceived notion of outcome, which we always have if the subordinate can be correct or incorrect in performance.

There are a whole number of areas where we don't know what we want. I hope

there are not too many, but there are a number of these areas. The only point I want to make is that if a superior does not know the outcome, then the subordinate can be neither correct nor incorrect in performance. But if you know what you want this is the only base you have for judging.

I am saying that some managers, by their natural makeup, are perfectionists. Some other people are, I guess, the opposite of that, which is liberal--often known as below standard, but liberal. I think this is an important relationship. To take an example--suppose my superior says to me, "We want you to turn out 3,000 widgets." I have three subordinates, so to make the example easy I say, "A, a thousand widgets, B, a thousand, and C, a thousand." I would build into their standard of performance that they fulfill the quota as given to them, to take an easy one that is measurable. Now, another person just like me over on the West Coast, and let's say he is connected with the Air Force, turns around and says, "I have my orders from the top that we have a quota. A, you will turn out 1200; B, 1200; and C, 1200." This man on the U. S. Coast is what I call a belt-and-suspenders operator. He just doesn't ^{want} to lose his trousers. So he builds in a margin on every requirement that is given to him by a superior.

Now, there are two things I want you to recognize. He set a 1000 requirement at 1200. That is an exploratory phase of one part of management. To get him to set true standards is one job of management. But, insofar as his subordinates are concerned, at any given point 1200 is par for the course, even though it is wrong. The thing I think we have to see is that, when the superior has a notion of what is accomplishment, even though it is wrong, it is standard for the subordinate at that

point. In other words, you can be just as wrong in not doing the unreasonable as in not doing the reasonable. The advantage of/standard under these conditions is that where the boss requires the unusual, the exaggerated, or the impossible, you get lead time on a new job.

I don't know whether I made my point or not. Personal requirements do vary from people having exactly the same jobs because the personal makeup of some people is this. And the other side of it--just to give you another thought--and I don't take all these thoughts all the way down because of time--is this. Making them uniform in their makeup and printing them for across the country, I am convinced, / makes for this kind of psychology: "Stick with them, boys, they'll have a new one next months." You know; Put it in the book and let's forget it. Now let's get back to work." I feel that this is true the minute you get manuals, and that the manual becomes a defensive weapon, where a superior can really enforce his notions when the occasion demands, rather than a mode of operation for subordinates because they want to get their job done. This is what standards can contribute. I think it is significant. It's worthy of a lot of thought.

What's his name, who has made a contribution with his famous rules? Parkinson. He has his laws. I have a few of my own. I call them hasty rules. I think they ought to be applied to all management. A man will never fashion a club with which he is to be beaten to death.

If you get participation in the establishment of standards, they are then used for discipline, pay administration--that is, destructive--and things of this sort. you may be sure that the standards set through participation will tend to offset the

direct desires of the superior. If they are used as I believe they should be, for the development of subordinates to a point of challenge, then I believe they will participate in setting them higher than even what the boss requires.

I am just leaving that as a channel of thought.

QUESTION: Sir, in your opinion, what is the role of the committee in management?

DEAN HAYES: It serves many purposes. I start now with a broad observation. Committees are almost as different as people, except, thank God, there aren't as many committees as there are people. Primarily the committee becomes a device for participation and communications. I do not believe in the tendency for committees to make decisions, and let me back that up. I believe that a committee decision has a tendency to relieve the line of responsibility for which it should be held accountable. I find that the tendency of committees is to hide distasteful tasks and that the chairman usually takes personal responsibility for the fruitful tasks. I believe committees are being widely misused. I think they should be used as widely as they are but not for the purposes.

Have I given you enough just to indicate? I don't think they should make decisions. It is my firm belief that no enterprise is a democratic organization. It is an autocracy in which you use as many democratic methods as you can tolerate at the time.

QUESTION: Sir, in view of that last statement, would you comment on the philosophy of "bottoms up" management?

DEAN HAYES: Yes. I am glad you asked that, because that last one is liable to leave people with quite negative thoughts, as far as I am concerned. You know

I don't mean it without qualifications. I think there has been a tendency in management to confuse the participative committee type of thing that comes up in order to help the man at the top to assume his position of responsibility and decide what is to go down. I think "bottoms up" is one phase of management. I don't think that "bottoms up" should ever be confused with decision-making. You may use "bottoms up" but you may not avoid responsibility for results on the basis of what bottoms decided.

So I like to think that the "bottoms up" management is excellent for the participative and democratic actions which inform the man at the top as to what the people closest to the job know best--and I believe they do. If the military will pardon me, I don't think it's right for a man who is a colonel to believe that he knows more than a second lieutenant about certain things, you see. Rank does not confer this kind of knowledge. We find this confusion. In my own organization I find the same kind of confusion exists on ordination, you know. Sometimes the person who is ordained thinks that this is a wisdom-inducing process. Well, it does produce wisdom, but in a restricted line. And I think the same is true in the military. What I must do is use participation in order to give me the background for decisions. This is "bottoms up."

Now, from here on we start the decision-making process which cannot happen from "bottoms up." It has to start from the top down. I think there is confusion on this. They don't see it as this kind of cycle. Very often they see it as this kind of organization. I just can't comprehend going in to my superior and saying, "You know that thing you told me you wanted to do. Well, I took it out to my subordinates

and they voted against it." I don't follow this.

QUESTION: Have you had an opportunity, sir, to analyze and/or observe this "Whiz Kid" management in the Defense Department? If so, would you care to comment on it?

DEAN HAYES: I was here once before. I'm not sure what the future may hold. If you will take me off the spot on that particular question, let me make a broad observation. Having dealt with a large number of governmental agencies on kind invitations here and there--and I don't say this just to you people--I have said it very widely and I have been criticized for saying it--I believe that the government administrator compared with his equal, now, is a better administrator than his counterpart outside. The only difficulty is that the administrator in government exaggerates who his counterpart is outside. I honestly believe that. I think there is a tendency, with the numbers you have attached to the jobs and rank in the Army, and so on, to go from this kind of a situation to believe you are the equivalent of this kind of a man outside. Pardon me. I've done it just a little too sharply. But there is this. I have found this quite widely.

But let me make a comparison which I think is valid right across the line. You are significantly a better manager than the man in industry. The difficulty has come that too much of management has been judged on the basis of profit-making on one side and expenditures on the other side, and this isn't fair. You do a good job.

Let me say this. I think the need for administration knowledge in management is tremendous in the Government. I would guess that I have never seen a company that has not been overstaffed at the management level by at least 10 percent. I have

no reason to believe that this is not a valid observation in governmental agencies.

Therefore, the direct answer to your question is that, considering the personnel approach to the way some of these things have been done--and I am repeating here something I said privately in a conversation earlier this morning--if the present idea of the "Whiz Kinds" leaves the concept of management one or two levels down to be carried out, they will have performed a very useful function. The thing I am afraid of most of all in all government agencies I have seen is that because of the security built in they have an idea that all they have to do is outwait them. Thank God the Constitution gives you about 8 years of this and then, you know, you can go back to what you were doing.

I don't know whether I have made my point or not. I think that what they are doing for management is outstanding. Now, what they are doing with management is something I am not in a position to judge.

Forgive me. If you disagree with me, fine. All I would ask you to do as a manager is to get your emotions and your knowledge separated temporarily.

QUESTION: You mentioned briefly the role of the computer in management. There is one school of thought which holds that the computer will eventually replace middle management. May we have your views on this transfer of responsibility?

DEAN HAYES: If my nature would allow me to get away with it, I would simply say, "I disagree." I think who is middle management may change but I am quite sure that what they mean by that is that middle management will now be in the computer section. They will be running the computers but they will be making a lot of decisions.

One thing about computers which we have to watch very carefully is that they have not--and I am probably archaic on this but let me stay with it temporarily and don't quote me too widely--and probably will not be able to build into computers creativity. Creativity will exist in the computers only because of the presumptions the programers or people who direct programers build in. Therefore, computers will serve their highest purposes in a static organization at any level.

Now, I hope you will be very kind, those of you who are computer oriented, in accepting my remarks. Once we have a set of acceptable things to do, the computer can help us do them much better. It's a tremendous step forward. The computer, however, and the people who are now involved in computers, are liable to be extremely limited, in the fact that really there are a lot of things we are doing that really we don't want to do any better. We ought to forget them and go up to the next step. Here we find a definite limitation.

Computer people will go through the same cycle, in my opinion, that engineers have. Eventually they found that engineering was not the solution to everything. They have since become the most wonderful students we have in the science of management. I think the same thing will happen with computer people. God bless them for what they are doing to help us with what we are now doing. They are tremendous. I hope this is fair.

May I make this last remark since that was the last question. You have asked me some questions. I have given you answers off the top of my head. To save time I have been short. Do all of you appreciate that, if I had time to put a thousand more words on each side, I could have modified them perhaps to make them a bit more

palatable and maybe more truly representative of my thinking.

I am not a radical. I have tried to give you direct channels for thinking.

Thank you.

COLONEL REID: Dean Hayes, on behalf of the Commandant, the faculty,
and the student body, we thank you very much for starting out our Management
Section on this tone.