

VARIETIES of PLANNING

Summary:

(Segment two: Varieties of Planning)

In this segment, Dr. Ackoff covers three main topics: 1) The nature of planning from a systems point of view. 2) The four pure types of management, and their attitudes towards planning; reactive, inactive, preactive and interactive. And 3) The operating characteristics and principles of interactive planning. The three principles are: participation, continuity, and holism.

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A sampling of books By Dr. Ackoff:

Ackoff, R.L. *Redesigning the Future; A Systems Approach to Societal Problems*.
New York. John Wiley & Sons. 1974.

Ackoff, R.L. and Emery, F. E. *On Purposeful Systems*.
Intersystems Publications. Seaside, California. 1972, 1981.

Ackoff, R.L. *The Art of Problem Solving (Accompanied by Ackoff's Fables)*
New York. John Wiley & Sons. 1978.

Ackoff, R.L. *Management in Small Doses*
New York. John Wiley & Sons. 1986.

Additional segment in this series:

CONTENT OF INTERACTIVE PLANNING

For more detail and supporting information, see "*Redesigning the Future*," listed above, pages 20-26. See also endnotes by Dag Forssell, providing a commentary on this seminar from a Perceptual Control Theory point of view¹.

The nature of planning from a systems point of view.

All right, we start with something we all know and are familiar with. The industrial revolution in the United States began about a hundred years later than it did in Europe. And it did largely because of our own particular history. We were still expanding our frontiers and developing our land at the time when Europe was industrializing, so that most of the historians date the real beginning of the industrial revolution in the States to about 1875. Some of the numbers I have seen were that 85% of the employers in the United States in 1875 employed less than 20 people. The average size of an industrial establishment turned out to be about the size of a two car garage.

The phenomenon of industrialization in the United States is actually very recent - only the last 100 years - which means that the phenomenon of management is even more recent. It is a very new concept, the concept of industrial management. The business schools emerged and eventually degrees in management, and they could only emerge by getting a concept of what management is. So they had to identify it. And its function as I have already indicated is clear enough. It is control of a system. But what does it do? What is the essential activity of a manager?

Decision Making

It became clear that what a manager essentially does is decide. He makes decisions. Therefore management education was largely an education to enable a person to make decisions more effectively. You can see this at Harvard, where the first really systematic pedagogy associated with management developed. The emphasis was on experience with decision making through simulated cases. The case study method. Subsequently, at the end of WW II when Carnegie Tech. revolted against the Harvard tradition, it tried to introduce a new way of looking at decision making, a scientific way, and scientific management in the current sense, not the old sense, began to emerge.

If we look carefully at the focus on decision making as a central activity of management, you recognize that we don't look at decision making in general. Because there are certain decisions that are harder to make than others. If I offer you the choice of a free selection between a Cadillac and a pair of roller skates, you've got to make a decision. But it is a very easy one. You don't have to go to college to find out which to pick. What we are concerned with are the decisions that are hard to make. That is, the decisions which must be made in the face of doubt. And that kind of a decision is called a problem. Therefore the fundamental emphasis is on problem solving.

The whole structure of management education focuses around problem solving. We divide and classify problems in the various types by function, like marketing, production, finance and so on. We talk about resource problems, about personnel problems; we have all kinds of divisions. Then we focus on the method by which one can solve problems.

As early as the end of the 19th century, however, people were already raising questions about this conception of management as essentially being a problem solving activity. The first awareness of this that I ran across is in the writings of William James. He was speculating at one point on the educational method. And he was commenting on how distorted it was of reality. The argument was somewhat as follows: He says a student either reads a text or listens to a lecture, and in both cases he has a similar format. There is an injection of content. Then there is a set of exercises or problems that he is given to solve. He solves them, he is graded, then he is allowed to go to the next stage or not depending on how well he did on the last stage.

James asked a very simple question. He asked where do the problems come from? He said that what happens is that you get educated to expect somebody at the end of each learning experience to give you a set of problems to solve. Then you'll be graded and if you do them well you'll get promoted. When you get out in the real world, and you discover that there is nobody whose function it is to come and hand you problems.

He said that problems are not given; they are taken. And where do you learn how to take problems? Furthermore, he said that you don't simply open your eyes and there are the set of problems for you to have. He said that what you are actually confronted with and we will pleasure you with a diagram of it. It looked like an amoeba. He gave this a name. He called this a great big buzzing confusion.

He said that what decision makers are confronted with are great big buzzing confusions, not problems. Problems are somehow or other extracted from this. And we don't know very much about the process of extraction. James did not carry this speculation very far. It was kind of a passing thought. But, one of his principal followers, John Dewey, did. In a series of works, he typically looked at this great big buzzing confusion in an effort to understand it. Since he was doing this at a point where this form of thinking had not appeared, he began by analyzing a great big buzzing confusion. He does this in his book: "Logic; the theory of inquiry." He takes it apart. In order to understand anything in the mechanistic mode, you remember, you have to try to find the elements. What Dewey did was two things. First he lent his great, great talent for obscurity to this and he renamed this thing an "Indeterminate Situation." That enabled everybody not to understand what he was talking about. The second thing he did was that by analysis he revealed what the atom of the great big buzzing confusion was. What do you think it turned out to be? You take the great big buzzing confusion apart and get it all the way down to its elements. What are its elements? Problems!

The problem turns out to be an element of a great big buzzing confusion. But that has an incredible implication. An element cannot be experienced. Why? An element is an indivisible part. Anything that you can experience can be divided. Therefore, whether it is physics or chemistry or what, when you get to the ultimate elements, they are a concept which cannot be directly experienced. And this leaves us with a curious result, that, if all this is true, then problems are something which you cannot experience. Of course the obvious question is: "What the hell have we been doing for the last hundred years?"

Question: Why do you say that an element cannot be experienced?

Answer: We will take an atom for illustration? Right. An atom is a particle of matter which cannot be subdivided into other particles of matter. That means that it is a point. It cannot occupy space, because if it did, you could divide it into two parts. A point is the only thing you can't divide, but you cannot experience a point. It is a concept, not an observable thing. Because anything that you can observe you can divide.

You may not have to worry about that, but the critical point is, that what became clear in the work of Dewey is that a problem is an abstraction obtained by analysis of great big buzzing confusions. That is the important thing. What he did not see, that we began to see subsequently, is that we can define a great big buzzing confusion very precisely. It is a system of problems. In a sense, in the same sense in which we would say that a (mendeleev's) table is a system of atoms. Now this has a great deal of significance.

First of all, I might say, we all have a term by which we can refer to systems of problems and I made a very serious error a number of years ago when I was writing about these things. I wanted a pun in the title of a talk that I gave. And so I coined a technical term by which I referred to these things which unfortunately a number of people picked up and have used since. And I will apologize for it, but I have to use it

here. The word which I coined for this was this: I called this a mess. The reason was that the article was called: "The art of mess management." I am sorry, but for some reason, mess seems to catch some of the essential flavor of a complex system of problems. So I am going to talk about messes.

If a mess is a system of problems, - recall the essential properties of a system we discussed earlier - this has a tremendous implication. It says: If you take a great big buzzing confusion, or a mess, analyze it into its component parts, into problems, and then solve each problem, what are you sure of about the mess? That you do not have the best solution to the mess. Because the best solution to a system of problems is not the sum of the best solutions to its parts taken separately. It has to do with the interactions of the solutions rather than the summation of them.

It is precisely on that distinction that the difference between planning and problem solving lies. [This is what] planning ought to be. It isn't except in relatively small quarters. The fundamental difference between planning and problem solving ought to be about the difference between a system and its parts. That is: **Planning ought to be the effort to deal with systems of problems as a whole, rather than as an aggregation of independently conceived parts.** Now, as you will see, when we look at planning methodology, it is basically analytical. That is it deals with wholes as aggregations of independent parts, rather than systems of interacting parts.

We are going to try to develop a concept of planning which is holistic or synthetic, as we proceed. So it is on the distinction between a problem and a mess that we get the distinction between planning and problem solving. Planning is not a mere extension of problem solving. **It is as different in kind from problem solving as synthesis is from analysis.**

And then, finally, you will see, I hope, as we go along, that most of what is being done, and is called planning, is analytical in character, is simply aggregated problem solving, and has nothing to do with treating the system as an indivisible whole. Now, what we mean by planning varies depending on certain managerial attitudes.

Some of you are probably aware I was responsible for the remark, probably the most quoted thing I ever said, when I once referred to corporate planning as the ritual rain dance like that performed by the Navajo Indians at the end of the dry season. It has just about as much effect on the performance of the corporation as the rain dance does on the weather. On the other hand, it is great therapy for those who are engaged in it. I don't mind all that, but I am constantly asked by corporations to improve their dancing. What I am really interested in is weather control. We are going to focus on weather here.

The four pure types of management

What we think about planning is dictated by what I am going to call styles of management. And what I try to do is organize my own thinking about managerial styles around a fundamental set of attitudes which management has and this is going to yield what I call the four pure types of management. And the word "pure" is critical. I am using pure in exactly the sense in which we talk about the primary colors. There are three primary colors as you all know, red, blue and yellow. You very seldom see any of them. Most of what you see, like this tie, is not pure blue. It has got a few other colors in it. It is still going to be blue. Therefore, most things that you see, you can identify by their dominant color. Most managements that you can see, you will be able to identify by their dominant style. But a single man may display different styles in different circumstances. You may be one type of manager at home and an entirely different in your office. You may be two different kinds of managers in two different offices. I am not talking about people, I am talking about attitudes and styles when I characterize these types of management.

The types are characterized by their attitudes towards time. Time, fortunately, is divisible into three intervals. The past, the present and the future. Attitudes, fortunately are divisible into two kinds, favorable, which I'll use a plus for, and unfavorable, which are negative. By combining these various attitudes across these three intervals of time, we can extract the basic styles of management. As I have indicated, there are four.

Reactive Management

The first of these is the style that I will call **reactive**. It is characterized by the following attitude: They do not like the way things are. They are not willing to settle for the current state of affairs. Things are not good enough. Furthermore, they do not like the way things are going. The future does not look rosy. It looks bad. On the other hand, things were once pretty damn good. So they are satisfied with some previous state. The principal function of this type of management therefore is the re-creation of a previous state. Its function is not to change, or to prevent change, but its function is to undo previous changes.

Its basic logic goes as follows: Here we are, confronted with a problem. We did not have this problem 25 years ago. What happened to cause that problem? Identify (thinking in cause and effect terms, because this is mechanistic thinking). Identify the cause of that problem and remove it! You remove or repress what is to blame for a problem. Therefore you are un-making a change, not making a change.

For example (we are loaded with them in our own culture) in the 1920's there was a general recognition of a major social problem called alcoholism. We did not have an alcoholic problem at one time in this country. What caused it? If you are simple minded enough it is perfectly clear what causes alcoholism. Alcohol! Well, get rid of it! Prohibition. That is a characteristic reactive solution to a problem. As we know, of course, it did not solve the problem, furthermore it created a new one, called organized crime, which was a lot more serious. You might think that culturally we would have learned from that but we didn't because in the sixties when we developed a narcotics problem, what did we do. What is to blame for addiction? The presence of narcotics. Prohibit it. We have the unique distinction of being the only developed country in the world with an increasing rate of addiction. But we will be damned if we are going to change our conviction that the only way of dealing with that problem is to get rid of the narcotics.

So it is a characteristic mode to look for what produced the change that gives rise to the problem and remove it. That is the basic operation. This is a type of management that essentially tries to buck the tide. It is trying to go back to a previous state in which things were simpler. Culturally and historically you can see major cultural movements of this type.

For example, the back to nature movement of Rousseau during the enlightenment was an effort to return to a simpler life, a rural, pastoral existence where you get rid of technology. Because technology is a principal source of change, it is also the primary target of the reactive manager. It is the devil. Not only metaphorically, but in fact. If you read Jacques [A. Loell?], a contemporary French mystic, he identifies technology with the devil, literally. It is evil incarnate. Look at the [Loddike?] movement in England ----?-?-?----- be part of the industrial revolution a movement of people who armed themselves with pick axes and crow bars and went into factories and destroyed machinery because they said machinery was destroying life. They wanted to go back to a previous, an earlier stage. John [Roskin?], William Morris. In the 1960's, the yuppie movement - not the hippie movement, which was a back to farm movement. They were all efforts to recapture a previous, simplistic life, in which some of the changes which have since occurred are undone.

If an organization has this general attitude, and wants to go back to a previous state, how will it plan? Well, it does plan. But it is not planning in the sense in which I am talking about. And let us take a look. The chief executive goes off to a conference for senior executives, called a senior executive development program. As you know, it is always in the Bahamas. In the course of this week of golf and an occasional lecture, he hears an inspiring talk on planning. (Churchman was there). He comes back and he says: "God damn it, we've got to do some corporate planning." So he calls in the corporate vice presidents and says: "Gentlemen, we are going to have a corporate plan at the end of this year." I want a five year corporate plan by the end of this year. That means, each of you must give me a plan for your division in 11 months. They say: "Yes Sir!" and go out. What do they do? They call in the next level of vice presidents and say: "Gentlemen, I have to have a division plan in 11 months, therefore I need a departmental plan from each of you in 10 months. With 23 levels of management, you can see what happens. You ultimately get to the supervisor at the bottom, call him in and say: "I want a plan for your section six months ago."

In addition to the problems of the problems of time, how does he actually think? He thinks reactively. What does that mean? He looks at the current situation and says: "What the hell is wrong with the current state of affairs?" So he begins by listing the deficiencies. He gets a list of them. Now he says: "What can I do to remove them?" These he calls projects. A project is an intended course of action directed at removing a deficiency. Now he organizes the project in some kind of a priority list, allocates what he thinks are reasonable amounts of resources to them. What he sends up to the next level of management is an aggregation of projects, independently and individually conceived as directed against specific, independently conceived deficiencies. That is reductionistic at its origin. You see, work at the elements.

Now the aggregation process begins. What you wind up with at the end is something called a corporate plan. It consists of 457 projects arranged in the priority with the resources allocated to them. A very large portion of the corporate plans I have seen are nothing but aggregations of projects.

Fortunately the ultimate good sense of American management emerges from the fact that most corporations pay no attention to such a plan once it is obtained. There is one corporation that I have been dealing with for about 15 years. Each year I am invited to their annual planning conference. It is absolutely incredible. It is a huge corporation, very highly decentralized, and every unit prepares a typically reactive plan every year. There is one thing that I have never ever seen them do. And that is compare accomplishments against the previous plan. They only ever talk about the next plan. And that is characteristic. It simply reflects the fact that once they leave the meeting (They have a hell of a good time during those three days) they forget about it.

Reactive organizations are generally those in our culture which are based on an archaic technology. Not exclusively, but they are the ones. Railroads are a prime example. West and I had the pleasure of working with railroads over many years and one thing I have observed about them - I never saw a problem arise in the railroad which its management didn't think could be solved by doing one of two things: Either get rid of the Interstate Commerce Commission or trucks. That is a characteristic reactive mode. You know, what the hell happened to screw things up? Things used to be great.

We are not going to linger with the reactive managers, but you ought to be aware of them, as a planner. When you come across them, you have to have some notion of what it is you've got to deal with and what kind of conversion nut.

Inactive Management

The second type of management, which is much more of an enemy, I am going to call the **inactive**. This derives out of the following set of attitudes. They don't like the way things are going, just like the reactive. But unlike the reactive, they do not want to go back to a previous state, because they like the way things are. Things are pretty damn good. Therefore, this is a type of management which is directed at the prevention of change as maintenance of a stable state under current conditions.

The more optimistic of these, believe that this is the best possible world. The less optimistic say it is good enough. Historically, there was a great German philosopher Leibnitz who articulated the philosophy of this with a marvelous proof that went somewhat as follows: God is by definition perfect. Right? Everybody would accept that. It does not make sense to talk about an imperfect God. Suppose we had two perfect Gods, one of which existed, and one which did not. Which one would be the more perfect? Clearly the one that exists. Therefore God exists. Now, if God exists and does something. Suppose what he does is create a universe. He could create two kinds of universes. A perfect universe or an imperfect universe. Which would be the more perfect God? Clearly the God who creates the more perfect universe. Therefore the universe must be perfect. So this is the best of all possible worlds.

Well, that is really a caricature of the inactivist thinking, and it is a caricature of Leibnitz as well, but the basic commitment is that things are pretty damn good. Keep your hands off. Leave them alone. Most of our problems are the result of intervening in the natural course of events. If we can only learn to abstain things would be all right.

Question: I can see how the reactive type got from the good in the past to the bad in the present because of poor management. But how did the inactive type ever get to a good position in the present? Was it blind luck, or is it just his perception that things are good?

Answer: It doesn't matter. Things have worked out well. They are out of his control, but what he wants to do is keep them that way. Therefore, his principal objective is to prevent change. Now, he has problems. His philosophy is don't do anything. But his problem is other people don't believe him. It is their goddamn meddling that causes all his problems. If they would just stop trying to make things better, things would be great. It is the efforts of others to plan and to improve that are creating all of his problems.

His general position is: If you can hold off long enough, most of these things will disappear. They will see the errors of their ways, and they will stop it. But they don't always do that. Therefore he does occasionally have to do something. But he will only do it when it is absolutely essential for survival or stability. Therefore he practices what is called crisis management. Don't do anything until you have to, and then do as little as you have to, to remove the crisis. Not the problem, but the crisis.

Question: Would you include New York City in that?

Answer: Yeah, we have crisis management in New York City. We have a lot of terms for this. We call it muddling through in some instances.

But the recent glorification of it in academia is in the book by Hirschman and Lindblom in which this doctrine of doing nothing is called the theory of disjointed incrementalism. Isn't that marvelous? The disjointed part means you don't do any two things that are connected, act only when you have to. The incrementalism part means do as little as you possibly can, to get rid of the pressure, not the problem. So if it is a race problem, you don't try to solve the problem, you just try to turn the heat off. You suppress the heat.

Unfortunately, by the choice of my term here, you may get the impression that management doesn't do anything and that is wrong. I am sorry if I have given you that

impression. Because it takes a hell of a lot of work to keep things from being done. It really does take an awful lot of effort. But we are very ingenious in creating mechanisms for occupying people in doing nothing. There are such things as committees as one of the prime examples, which is an organizational instrument for occupying people in getting nothing done. We have red tape bureaucracy. Underfinancing of projects. There are all sorts of ways we have for keeping things from being done. The inactive organization, unlike the reactive, is not trying to buck the tide, but what it is trying is just to throw an anchor and hold a fixed position in the moving tide. It is trying to stay where it is.

In our culture, the principal organizations that have the luxury of being inactive, are the ones whose survival is relatively independent of their performance. These are generally, in one sense or another, subsidized organizations. This, by the way, may be inside of a corporation. If you have a department whose future is assured through subsidy of the corporation, like a computing center, it may be very inactive. The prime examples of course, in our culture, are government agencies, but the paradigm is the American university. What you generally recognize as planning begins to emerge only with the third style of management. So, these other two are interesting, in the sense that the principal obstructors of planning come out of these two styles.

Preactive Management

What we normally think of as planning emerges with the type of management we call **preactive**. Preactive management is based on an unwillingness to go back to a previous state, an unwillingness to settle for where you are now, but the belief that things are pretty good and they are getting better. Therefore it is directed at accelerating the future, of encouraging and inciting change. The future is going to get pretty good.

Let us get there. If I can use the figure I have used before, we can describe the activist as follows: He is not trying to buck the tide and get back to the shore that he was washed away from. He is trying to throw out an anchor to hold a fixed position. He is trying to ride the tide. But more than that, he wants to get to its leading edge so he can get to where it is going before anybody else does, and then turn around and collect the toll from the others when they arrive. He sees in the future opportunities to be exploited by shaving it first. Therefore, the concept of planning which emerges out of preactive management reduces to two fundamental processes.

Predict and prepare. That is the dominant mode of planning in the United States. Two parts. First: Predict what is going to happen, and then prepare for it. The preparation is either how to minimize or avoid problems or exploit the opportunities that the forecast future will bring. There are a couple of important aspects of this concept of planning that we have to consider. First, that these are not equally important.

One is more important than the other, and you can see immediately which. Suppose we prepare perfectly for an incorrectly predicted future. How good will the preparation be? Not very. If we prepare imperfectly for a correctly forecasted future, there will be some value to it. Therefore, prediction is the central problem. Any wonder that in the last 15 years we have the emergence of a whole new pseudo-science called futureology. I have had executive after executive say to me, in all sincerity: Look, don't tell me what to do. Just tell me what is going to happen. The rest is easy.

Just tell me what the future is going to be and I will take care of the rest. It is the goddamn uncertainty about the future that is the problem. If you can just forecast more accurately, that is all I need. That is the fundamental notion underlying preactive planning. That what we start with in a preactive plan is always observable, because the first part is the forecast of the future environment. There it is. This is what we are going to prepare for.

The second part is the preparation for it. Because the preactive planner, and the preactive manager, is in favor of change, his attitude towards technology is diametrically opposed to the reactive planner. The reactive planner saw a technology as the enemy. In the war of two cultures, he is on the humanist side. This guy on the other hand sees technology as the cause of change also, but since change is good, technology is the hero. Therefore we tend to have technocratically oriented planning. Highly absorbent of technological developments in the planning process.

I am not going to linger on this style of management, but I do want to point out a couple of fundamental problems associated with it, out of which the type of planning we will concentrate on, emerges. The first is this: The basic attitudes here is that the future is in fact predictable and we can prepare for it. That is an outright contradiction. Ask yourself the following question: Under what condition would you be able to predict the future with absolute accuracy? Because that is the ideal of the preactive planner. Under what condition could we predict with absolute accuracy? We know the answer because 400 years of science gave it to us. What is it? The universe is a machine. Right! If the universe is a machine, we can't do a damn thing about it. Therefore, precisely where you can predict, you cannot prepare. You have the illusion of choice, where you can predict accurately, but not the fact of choice.

Preparation is only possible when you can't predict. Therefore the more accurately you can predict, the less effectively you can prepare. He says: Wait a minute buddy, you can't catch me with that! I am not that stupid. He said, that is not what I am doing. What I am doing is this: Here is the environment, and here is my corporation. I am predicting the environment and preparing the corporation. So you don't catch me. That is true. But he has hung himself on a worse one. Because if you can predict the environment, then what is the environment? It is a machine, right? If you can prepare the corporation, then it must be a purposeful system. How can you have a machine which has a purposeful part? You can't. On the other hand I can have a purposeful system which has a mechanical part. Therefore, if he can predict the environment, he can't prepare the corporation, (he can predict it but he can't prepare). If he can do something about the environment, then he can't predict it with accuracy. I am taking the extreme form and caricaturizing it, but nevertheless, the fundamental dilemma is there.

What you can do about the future you can do because of choice. It is precisely because of choice that we cannot predict accurately. Where you can predict accurately there is no choice, and therefore you can't do anything about it.

Interactive Management

It is that dilemma that gave rise, together with systemic thinking to the fourth attitude which is the one we will learn about. It is an attitude towards time which says I am not willing to go back to any previous state. I am not willing to settle for where we are, and I don't like the way things are going. The immediate reaction is: Here is a cynic. This position, by the way is alternatively called in the literature interactive and proactive. I prefer **interactive** myself, but you will see it described both ways. It is not a cynical position, despite its appearance. It is not like the famous quip by Bob Hope, who once said: "Stop the world, and let me get off." That is not its intent. And it isn't because it rejects the fundamental assumption inherent in the other three attitudes of management. The one thing that these three share is the belief that the future is largely determined by what has already occurred. And therefore, whatever we can do about it is relatively small, compared to the part that is already set. That is perfectly clear in the preactive mode, because you are forecasting first and then preparing. This position is based on the assertion that the future depends more on what we do between now and then than on what has happened up until now. **Therefore the future is subject to creation.** We don't like the future that is going to occur if we do nothing,

but we can create the future that we want. That is the fundamental doctrine. That gives rise to a concept of planning which is fundamentally different. Let me write this down. How is planning perceived?

Planning is the design of a desirable future, and the invention of ways to bring it about. There are some interesting things about this definition. If we compare it with preactive planning, which is the dominant mode of planning in the United States. In preactive planning, fundamentally, you predict, then you identify alternatives that are available, you evaluate the alternatives and select from among them. So there are two fundamental methodological processes of prediction and evaluation. Are they analytical or synthetic processes? They are analytical. What about design and invention? Are they analytical or synthetic processes? They are synthetic! Therefore preactive planning is fundamentally planning based on the analytical mode. **Interactive planning as we will see is fundamentally planning based on the synthetic mode**, because its concern is with the design, the creation of wholes, and invention, which is the synthesis of new possibilities.

Operating Characteristics & Principles of Interactive Planning

To understand what this type of planning is like, we are going to approach it from a number of different points of view². I am going to start by talking about what might be called its operating principles, that is, saying what it is, and how it is carried out. Because if you didn't know anything about it and wanted to find out about it, the best thing is to do is to go watch somebody do it.

What would you see that is different? How does it differ from previous modes? It differs in three fundamental respects.

Participation:

The first principle is that of participative planning. What does that mean? The interactive planner denies a fundamental implicit assumption that is inherent in all other forms of planning. That assumption appears to be so obvious that nobody has even bothered to question it before. Namely, that the principal benefits of planning are to be derived from consuming its product. Plans. The purpose of planning is to produce a plan that will be consumed. Right? Wrong!

For the interactive planning, **the principal benefits of planning are derived from engaging in the process, not from the consumption of the plan.** In planning, process is the most important product. That is fundamentally different. It has two major impacts on the way planning is done.

First: Effective planning cannot be done for an organization. An internal group or an external group cannot prepare an effective plan for an organization. Who the hell is going to do it? The answer is: The organization. Effective planning can only be done by the thing planned for. This is really such an obvious thing at one level of thought. Unfortunately, it is a level of thought we don't share because of our sophistication.

Let me explain that. We have a lot of work that we do with an urban black ghetto just to the north of our university, which for the last 15 years has been engaged in an incredible self-development effort. With some very considerable success. The motto of that community is really marvelous. The motto of the community is: *Plan, or be planned for.*

They really see the point. What they are saying is that it is a whole lot better to plan for yourself poorly than it is to be planned for by somebody else well. Why? Because it is not the plan that matters. It is the **planning** that matters. What are the benefits derived from engaging in it? Well that, we will see. We will come back.

The **second** implication of this principle is a question. Here I am and here you are, pretending to be professional planners. If our job is not to plan for others, what is our job? What is professionalism made up of? Oh, one thing is clear, we are going to have to get up the medical model. You see, we've dreamt of ourselves as a doctor, to whom the organizational patient comes and says: Look, I don't feel well. Tell me what is wrong and prescribe. Look for the symptoms, diagnose and prescribe. That is the plan - paradigm. Well, it isn't that. If you want an analogy to use, use the teacher and a student. The teacher knows one thing about education. He cannot learn the subject for his student, try as he may. If you come to study the calculus with me, the one thing I can't do is learn the calculus for you. But what I can do is enable you to learn the calculus more effectively than you could without me.

Therefore, the **principal function of the planner becomes to facilitate the effective planning of others for themselves**. He is a facilitator of effective planning by providing them with the information, the instruction, the methodology, the motivation, the resources. Whatever is needed to enable them to plan more effectively for themselves. But not to plan for them. To enable them to plan more effectively for themselves. OK, so that is principle number one.

Continuity:

Principle number two is the principle of continuity. Most corporations that you go into have what is called a planning cycle. You are all familiar with it. It is like a menstrual cycle. They just work like hell to get through the damn thing. They finally get over it and everybody takes a huge sigh and they say, well now we will get back to work. That is characteristic of the cycle. In national planning, it is very common to have a two year cycle for preparing the next five year plan. India has been going through it for years. Russia goes through it.

This principle of planning says that planning must take place continuously. Not in cycles. Why? Well, because it is based on the following assumption. There is one thing about planning, of which you can be certain, and only one thing. It is not going to work. No plan will work as intended. And it won't work precisely because the unforeseen occurs. It is precisely because you can't forecast. Therefore, it is essential to take continuous readings of what is going on, in order to maintain, modify and improve the plan in light of continuously new information and understanding. Therefore, planning ought to take place continuously.

That has an important consequence. This same corporation that I referred to has been doing interactive planning since 1965. That is a fairly long time, 13 years. It has never produced a corporate plan. It does not have to for two important reasons. When the chief executive was asked recently at a meeting of security analysts where is the corporate plan, he said: We don't have one. They said: How come? He said: Well that is silly. It would take about two months to write it down and by that time it would no longer be accurate. Because in a two month period it is completely transformed. He said: Furthermore, why bother, everybody is engaged in the process. They know what the hell the plan is. The need for a document called: "The Plan" is largely a need generated by and a symptom of deficient planning. To be sure, they have got documents all over the place. But they are memoranda and memos for the record and so on, which give the current state of the thinking and decisions. And it could be consolidated. But for this kind of a process, the plan is simply a still photograph taken from a motion picture. You get no sense of the dynamics of the whole by looking at a photograph of it. So the plan becomes essentially a luxury, which you can well do without. Or you can produce, if you need to, for various public relations purposes.

By sheer chance one year, two corporate chairmen and one corporate president asked me in one week to look over their corporate plans, and if I would do a critique and commentary for them. They said they were not in a very good position to evaluate

their corporate plan. I agreed to do this. It was incredible. Two of these plans were marked "Company Confidential" and the third was marked "Secret." When I came back after reading through these plans, all of which by the way were reactive plans, they were collections of projects. I started by saying: Look, before I tell you what I think of a plan, I have a question to ask you. To each of the three I said: Your plan is marked "Company Confidential" or "Secret," can you tell me why? They said, well of course, we don't want the competition to get hold of it. I said: "Why not?" He said: "Well, it contains competitively useful information." Well that is what I miss. Can you show me some? And then they all pick up the plan and start to finger through it and sooner or later they blush and put the book down and say: "Nah, that is not really the reason that it is that." I say: "What is the reason?" And all three of them told me the same thing: They said: "We are ashamed of it!" And they really were, but they would not tell that publicly.

Holism:

OK, third principle. **The third principle is the principle of holism.** It has two major sub-principles. The principle of **coordination** and the principle of **integration**. We want to look at them. They derive out of the fact that organizations are normally thought of as triangles, which are divided into layers or levels, running down from top management to a cousin at the bottom. Organizations are also divided along the vertical dimension by various criteria. The three most commonly used ones are product lines, (General Motors has a Pontiac, a Chevrolet, an Oldsmobile, a Buick division and so on), or by function, (you have marketing, production, finance, personnel), or geography (so you have the North American division, the Central American division and so forth). So organizations are essentially representable in conventional terms as a triangle divided into layers with vertical divisions. The vertical divisions may or may not run all the way through.

Coordination has to do with this (horizontal) dimension. Integration has to do with this (vertical) dimension.

Coordination:

What is the principle of coordination? It is a principle I have never heard anybody disagree with, yet there are very few people that ever pay any attention to it. The principle is this: At any given level of an organization, you cannot effectively plan for a unit, without simultaneously planning for every other unit at that level. You will all admit that that makes sense, right? There is a very simple symptom to determine whether an organization is doing that. And that is whether it uses the concept of priorities.

Any corporation that is talking about priorities is not doing coordinated planning. The concept of a priority is inimical to the concept of coordination. Yet most corporations support the principle and set priorities. Therefore they are not doing coordinated planning.

What are they doing, basically? A problem arises in the marketing department. It is called a marketing problem. Therefore it is given to the marketing department to solve. You set the priorities. Sales are going down. That is a marketing problem, therefore marketing picks it up.

That is exactly the same as a patient coming in to a doctor saying: "I have a hell of a headache, will you please do something for me." He says: "Sure, let us do some brain surgery."

But that is what we do in corporations. We operate on the assumption that the location in which symptoms are observed is the location in which the causes are to be found. That is exactly how we educate people. We talk about marketing problems,

financial problems, production problems, personnel problems, and so on. And there are no such things!

There is no such thing as a marketing problem, a production problem, a financial problem, a personnel problem. There are only problems. Those things are points of view, not kinds of problems.

I had an incredible experience a short while ago which illustrates this point. There was an 83 year old black woman living in this urban ghetto I told you about, who had a fourth floor walk up. The medical treatment center where she had previously been taken care of was shut down for lack of funds. She did not have enough money to go by public transportation even to the closest medical center, so she walked over there. She walked a mile and a half to get a medical exam. On her way back, going up the stairs to her room, she had a fatal heart attack and died on the stairway.

There was - and this isn't intended as a pun - a post mortem of people working in the community to find out what the devil could be done to prevent this kind of a tragedy from occurring. Among the people who were present was an architect. He said: "Look, it is really very simple to prevent this kind of thing from occurring, because fundamentally it is an architectural problem. If we had elevators in the building, it would not have happened. So we want to change the building code and get elevators required in these buildings."

There was an economist present who said: "Well, you could do it that way, but there is a much easier way. The problem is that her welfare payments are not large enough to enable her to afford a first floor room. If we just increased welfare payments, the rest would be taken care of."

The third one who was there was a social worker, who said: "Now, there is a much easier way than that. Are you aware of the fact that this woman has an affluent son who lives out in the suburb, but they are alienated from her. If we only had the family structure right, she would be living with them and this never would have occurred."

The doctor who was present said: "Why the hell can't we have doctors call on these people instead of making them call on them."

What kind of a problem was that? Was it a medical problem, an economic problem, a social work problem or an architectural problem? It is none of those. It is a problem. It can be looked at any one of these ways. You can accept that in principle, but there are damn few people who accept it in practice. It is the hardest thing I know of to teach people. It took me 20 years to find a way of doing it.

I will describe the only way I have found for getting the kind of student who hasn't the kind of a rich background of experience that you have to understand this principle. I give a course periodically, which is a standard, basic course in production and inventory control. I tell the students at the beginning of the course that I am going to accelerate this course and cover the textbook in half a semester instead of a full semester.

They are going to do exercises at the end of each section and hand them in. They will be graded and returned to them. They have to keep those exercises. I don't tell them why, but they have to keep them. I don't care what happens to the textbook, but keep those exercises. So they do. I frighten them enough so they do. Halfway through the semester they come in. I say: OK, we are done. Throw away the book, bring out the first set of exercises. They say: Why? I say: I'll tell you why. Get them out. They get them out.

OK, I want you to re-solve those problems. But now you have to solve them in a way you did not the first time. You must solve them without touching anything in the production department. They look at me and say: "You are crazy. What do you mean? Look, the first problem on this page is a production scheduling problem. How in hell do you solve a production scheduling problem except by changing production."

Notice that question is exactly the same as saying how do you solve the headache except by treating the head. It is exactly the same thing, but it sounds silly in the second case, not in the first.

I tell them that that is what they have to find out. Let me tell you for the first two or three weeks all hell breaks loose in that class. They fight me tooth and nail. It is only when they have become absolutely convinced that I am incorrigible and they are going to flunk if they don't try that they finally do. Then they go through an incredible experience. They discover, first of all, that it can be done. Then they take credit for having discovered it.

They not only discover they can solve every production problem outside the production department, but they also discover that most of the solutions they discover are better than the ones they had originally. Now they begin to understand something. But they are not over yet. Because it is the next step that really gets to the heart of systemic thinking. About a month before the end of the semester, I say: OK, bring out the first set of exercises again. They say: "Oh-Oh, what is up now?" We shall re-do them. This time you can't touch anything inside the corporation. Well, they don't fight quite so much now.

They discover in the last few weeks of that course two things: 1) That there is no problem that arises in a corporation that cannot be solved in its environment, and 2) that most of them can be better solved there. That is a basic principle.

In **reactive** planning, you start at the part of the system and solve its problems and move out to the system and you ignore the environment. In **preactive** planning, you try to solve the problems of the system and reduce it down to solutions to problems of the parts. In **proactive** planning you start in the environment and work your way in. Because the greatest power over the future lies through control of the environment. It is obvious. I don't know what companies you are from, but there is not a single one of you from a company that I cannot affect more by changing the law, than you can from within. A simple change of law can have a larger effect on any corporation than anything the corporation does inside. You all recognize that. But, you say, we don't influence the law. That is true, you don't now. But perhaps you could if it became an objective to do so. The main reason we don't influence the environment right now is that we have had a policy of hands off. But the emergence of the environmentalization problem begins to open up the possibility of planning the environment as well as the system planned for. We are going to come back and look at that subsequently.

So the principle of coordination asserts: Look at all of this no matter where the problems emerge. This is looking at a problem simply as a set of symptoms of a systemic deficiency and studying the whole to find out where the most effective point of entry is.

Integration:

The principle of **integration** which I will end with is exactly the same principle running the other way. **Reactive** planning is bottom up planning. You start by planning for the smallest unit and accumulate up to get the pile at the top called the corporate plan. **Preactive** planning starts the other way. It starts with a group of executives saying: "The only people in this corporation smart enough to plan for it is me." Therefore they produce a corporate white paper. A strategic statement coming from the top. This is then handed to the second level saying: Translate this down to your level. Then it goes to the third level: Translate it down. And so the planning is a filtration process going down.

What this says is you cannot plan effectively with any one level without simultaneously planning interdependently at every other level. Therefore you must plan at every level at the same time.

If you put these two principles together, what happens? If you must plan in every unit at any given level, and if you ought to plan at every level simultaneously, then who is engaged in planning? Everybody. Therefore this turns out to be the participative principle in disguise. OK, these are the three fundamental concepts of operation.

Lunch Break. During lunch, Dr. West Churchman spoke on: Anti-Planning; The systems approach and its enemies. This has not been transcribed.

For a continuation of this seminar transcript, see the next title in this series:

CONTENT OF INTERACTIVE PLANNING

- 1 In the first section, Dr. Ackoff gave an account of our society's transition from Machine Age Thinking to Systems Thinking.

In this second section, Dr. Ackoff continues with Planning; a major management activity.

The importance of the systems perspective as background information for this section, becomes clear. As Dr. Ackoff progresses into the interactive planning, the Perceptual Control Theory (PCT) perspective is increasingly able to give insight into why people respond the way Dr. Ackoff describes.

- 2 From The PCT perspective, this discussion can be seen as describing a process to develop in each individual the capabilities and purpose to allow all to function well in cooperation within the "system" framework of the corporation.

