Chapter IV. Operations

1. Plan and Organize Operations

Figure 411 is a representation of the steps we have taken as we have progressed through this management orientation course. It also is representative of the logical development of an industrial enterprise. To review briefly, the principle objective and the subordinate goals of the company are defined by management by prescribing – *in writing* – the general policies which will be used as a guide in the conduct of the company's business. Within the scope of these policies, the necessary functions of the enterprise, the required levels of authority, the personnel, the skills and talents, are all organized into a body designed to provide an efficient means of translating the written plans, schedules, and decisions of management into positive effective action.

Of course, the organization cannot run by itself. Leadership must be provided and the work of the several parts of the enterprise must be coordinated into a unified whole. Supervision and coordination then, must be provided by management.

But, the business executive must have some method of assuring that every action taken is really effective. And there must be ways of determining the actual efficiency. For this purpose, there must be superimposed upon the organization two coordinated primary controls. There must be, first of all, a control of quality and then there must be a control of costs. These two are fundamental. From these are derived the majority of the subordinate controls which are used in the company to guide, govern, direct or restrain activity.

Upon analysis, certain of these secondary controls will be found to descend almost directly from one or the other of the primary controls. For example, inspection control is generally very close to quality control, while inventory control is closely related to the purposes of cost control. On the other hand, production control is more or less equally derived from both quality and cost control. However, none of the secondary controls can be considered to be entirely made up of the characteristics of just one of the two major controls. There are always some aspects of both in the subordinate ones although the emphasis placed upon one or the other may differ from case to case.

Obviously, controls, and in fact the whole scheme of organization and policies have no value except in terms of definite active functioning of the enterprise. And so finally, there must be operations. The whole system must be put to work.

In turning our attention now to Operations, we find that this subject can be divided into four elements. First of all, there is the *work to be done*. This refers to the company's various lines of activities, each of which is a related entity in itself. It stems from and is aimed at the successful accomplishment of the several objectives of the company. Each of these lines of activity must be defined and specified by a clear identification. This may be a plan of action, a schedule to be met, a project to be accomplished or other form of work specification.

Secondly, there is the *work assignment*, both in the wider sense of defining the scope of the various departments of the company, and in the narrower sense of charging individuals with the responsibility for performing certain particular duties.

The third element of Operations involves *work execution*. This includes determining and planning the use, and making actual use of men, machines, materials, methods and money. The final purpose of all of this is the accomplishment of the work that would be defined in the first phase of Operations.

The fourth component of Operations is *work follow-up*. This entails methods of measuring, adjusting, reporting progress, evaluating performance and in itself is a control function.

Our previous discussions have covered to some extent both work definition and work assignment. So let us now turn our attention to work execution. In this regard, there is little doubt that economy of operations should be the main objective of the organization for operations, - including the factory buildings, the plant, the internal layouts of departments, machinery, equipment, appliances, and the services that are necessary to operations.

Now, it may be said that our approach in this discussion (it will be a fundamental one dealing with principles) is inconsistent. You *do* have factory buildings and your machines are actually arranged inside the buildings. Nevertheless, it will not be entirely amiss if we take the opportunity now to reconsider some of the problems involved in the organization for operations so that you can make an intelligent review of your present situation in comparison with basic principles.

The first problem that confronts us in relating economy to operations is the location of the plant site. The factors inherent here are:

1. The economy of obtaining production materials.
2. The economy of marketing the product.
3. The economy of the labor market. That is, securing training, and holding a labor force, and all of this in relation to the average local prevailing wage rates.
4. Financial inducements such as low tax rates, local subsidies, and the like.

Nor are these the only relationships that bear on this problem. The effectiveness of the executive and control organization is to a great degree dependent upon the adaptability of the plant and its facilities for the purposes of control. This, in turn, is influenced by two factors: plant location, and the physical characteristics of the plant.

Three elements of cost are involved in the influence that plant location has in relation to the overall problem of operations. These are (1) cost of raw materials, (2) cost of manufacture, and (3) cost of distribution. The cost of raw materials includes not only the purchase price but also the cost of transporting the materials to the plant. Manufacturing costs include operation expenses and also cost of buildings (or rent), land, taxes, *etc.* . Distribution costs include the charges for packing, crating, shipping, cost of sales, and transportation of the product to the market. From this it can be easily recognized that the overall cost of the product, delivered to the customer, is affected in no small degree by the distances which separate the plant from its sources

of supply and its consumer markets. The problem is further aggravated if more than one plant of the company is concerned with manufacturing operations on the same product, and transfers of work-in-progress must be made between plants.

It is inevitable that in selecting a new plant location or in evaluating a present site, a compromise must be made between all the various factors which bear on the problem of location. In approaching this logically, a list could be made of all the expenses involved, *i.e.* raw materials delivered at the plant, fuel and power, operating expenses including the cost of labor, general charges and expenses, and distribution. The cost of each of these items would be entered on the list under each of the several different locations considered as likely plant sites. The total cost, the sum of all the costs in a given location, which is the least by comparison with the others, will generally turn out to be the most desirable site.

The type of factory building best suited for use is a problem that must also be considered. The question here centers about whether a one-storey building is of more advantage than a multi-storey one.

Some of the arguments in favour of the one-storey building are:

1. The plant usually occupies a low cost ground area.
2. There is room for plant expansion.
3. Heavy machine equipment can be used almost anywhere in the building.
4. Heavy or bulky materials can be easily handled.
5. Lighting and ventilation is a small problem.
6. Greater efficiency is possible in routing and handling materials.
7. Overall operating costs may be less.
8. Supervision may be easier and more effective.
9. Cost of building construction and maintenance is low.

On the other hand, a multi-storey building may be desirable because:

1. The plant can be built in a more desirable although high cost ground area.
2. It may make the best use of limited ground area.
3. Products that are light and not bulky can be easily handled.
4. Light and easily adjusted machinery can be worked into the factory floor plan easily.
5. It is possible to make a vertical coordination of departments.
6. Heavier operations can be put on lower floors and lighter work and assemblies on upper floors.
7. It is relatively easy to expand when full use is not made of existing floor space.

Having considered the types of factory buildings, the next thing that comes to our attention is that which must be placed inside the building. The layout of departments and machinery inside a factory is of the utmost importance. A good layout will avoid waste time, it will improve efficiency by eliminating unnecessary effort and useless movements of work-in-process. It will also make best use of the facilities of the plant and help management perform its supervisory functions more effectively.

A factory, with all of its equipment and services can be thought of as being itself one large machine. The design and organization of this machine, the number of people required to operate it, the number of times materials must be moved from one part of the big machine to another and the distances involved, and the amount of time required by this production machine to convert the raw materials taken in at one end to the finished products which emerge from the other end; all of these factors have a direct influence on operations. Here too, then, is a relation between factory layout and manufacturing cost.

Any plant layout that is finally chosen will be determined partly by the volume of work to be done and partly by the production processes to be used. The responsibility of the production engineers is therefore great in relation to this important problem of the organization for operations. A firm foundation for this organization must be made by providing for a careful and complete analysis of each phase of the manufacturing processes by the production engineers.

The most advantageous arrangement of departments and machines must be determined. The flow of work must be studied, each work process must be reviewed, the machinery and equipment itself must be reviewed. The machinery and equipment must be studied from the viewpoint of whether they are the most adequate for the work expected to be performed.

In general, the requirements of an effective operating organization demand that these factors be considered.

1. The desired capacity of the plant and future estimated capacity.
2. The manufacturing schedule divided into the number of parts and varieties of sub-assemblies or finished products to be made.
3. A list of parts or materials to be used in making the product in order to determine which are to be purchased from outside sources and which are to be made by the company.
4. A list of the production equipment and facilities required for the desired production capacity.
5. A study of manufacturing and assembly operations necessary to make the final product. This would be necessary in order to check on the proper spacing of equipment.
6. The time interval required between successive operations to check on the need for and location of storage spaces.
7. The sequence of operations in manufacturing and assembly shops in order that departments and equipment will be put in logical and convenient relationships so as to obtain a progressive flow of materials.
8. Department space required to house production equipment and provide space for aisles, storage, or sub-departments.
9. A review of various operations in the processes to determine whether certain departments should be isolated from others for reasons of safety, noise, special process needs or others.
10. A summary of floor space needs of the plant as a basis for estimating future needs in the event of an expansion of plant.

After the plant layout has been studied, the next problem to be faced is the determination of the main channel of flow of materials. This is usually represented by a diagram called a flow chart. The factory shops, their areas and locations, and the arrangement of service facilities are drawn on the chart, although more detailed charts will also show each machine and piece of equipment, its type, physical outline and arrangement. From such pictures as these it is relatively easy to determine the most desirable arrangements of machines and facilities. A study of the flow charts, with the possibility of making trial arrangements on paper before making actual physical rearrangements in the shops, will help to anticipate layout difficulties and thus to avoid them. It will also help to determine the layout which will make the best, most effective, and most economical use of the available floor space and the one most suited to the production processes in use.

The type of factory layout that is becoming most widely used in industry is the so-called straight-line-production. In this system materials always move in one direction. There is no backtracking, but rather a continuous flow from the point of entrance of materials to the point of shipment of the product. The machines and equipment are arranged along the line of travel of the product. Mass production organizations are the typical users of this arrangement because (1) there is a minimum amount of material handling, (2) this type of production is easier to supervise, and (3) production costs are usually lower.

In a second type of layout, called the Jobbing layout, all similar types of machines are grouped together in one place and the materials are moved from one group to another during the fabrication of the product. Figures 412 and 413 indicate the elements of these two systems.

The main disadvantage of the line system is that it is more expensive to install and there may be a duplication of equipment. This is avoided in the jobbing layout where the principle advantages are the possibility of making the maximum use of the factory machines, the eventual development of skilled operators, and a high degree of flexibility capable of taking on different varieties of products.

The selection of the most advantageous production system will be made, as was said before, by the production engineers after their careful study of flow charge and the actual manufacturing activities involved.

When the system has been selected and put into operation, when the work is being executed, management must then turn to the fourth element of Operations. In performing work follow-up, management measures the accomplishments of the operating organization. The modern tendency in industry is not to *judge*, but rather to *measure* the results of efforts.

In this regard, it is necessary to distinguish the difference between the collection of data and measurement. Industrial data are generally an accumulation of results gathered over a period of time. Thus, the facts represented in a balance sheet, a sales report, or a statement of labor costs for a month or any other period reflect a certain condition and for many purposes are quite useful. But, these statistical data gains in importance, and they become useful as a measure when a comparison is made to established standards. This is one of the primary reasons for the establishment of standards of performance, such as inspection standards, standard costs, standard material usages, *etc.*

A more common and sometimes even more useful method of comparison is the use of ratios. For example, a balance sheet is a statement of the accumulated values of assets and liabilities. The *difference* between the liabilities and assets is a measure of the prosperity of the company. But, from the balance sheet other comparative data can be taken and used to measure other characteristics of the enterprise. The ratio, current assets/current liabilities, is considered a measure of the borrowing power or credit risk of the company. In the United States a figure of 2 for this ratio is taken to indicate a satisfactory loan risk. A company whose ratio figure is less than 2 would be less likely to receive a loan.

However, current assets may include items that can be quickly converted to cash as well as those which may be classified as long term assets. Some banks prefer a ratio of, quick assets / current liabilities, as a measure of borrowing capacity. In this case a figure of 1 or more indicates a satisfactory financial condition.

Continuing this same idea, a series of ratios have been worked out for the measurement of the various conditions of the enterprise. The information for these ratios comes from the balance sheets and other records of the company. These ratios are:

1. Earning Power $\frac{\text{surplus net profits}}{\text{net worth}}$
2. Profit on turnover $\frac{\text{surplus net profits}}{\text{volume of business}}$
3. Operating efficiency $\frac{\text{operating profits}}{\text{total capital}}$
4. Profit earned on turnover $\frac{\text{operating profits}}{\text{volume of business}}$
5. Capital turnover $\frac{\text{volume of business}}{\text{total capital}}$
6. Results of merchandising $\frac{\text{gross earning}}{\text{volume of business}}$
7. Trend of operating results $\frac{\text{costs and expenses}}{\text{volume of business}}$
8. Effect of general policies $\frac{\text{property expenses}}{\text{investment and sales}}$
9. Cost of borrowed capital $\frac{\text{total cost of borrowed funds}}{\text{average amount of capital borrowed}}$
10. Cost of total capital $\frac{\text{cost of borrowed capital, plus fair return on net worth}}{\text{average amount of total capital}}$
11. Inventories turnover $\frac{\text{cost of sales for the year}}{\text{amount of accounts receivable}}$
12. Use of capital in receivables $\frac{\text{volume of business}}{\text{amount of accounts receivable}}$

13. Turnover on fixed property investments — $\frac{\text{volume of business}}{\text{capital invested in plant and equipment}}$

14. Credit condition — $\frac{\text{current assets}}{\text{current liabilities}}$

It is extremely difficult to set up industry standards against which these ratios of any individual company could be compared. Perhaps the most common method of determining a standard for this case is to take an average of the values obtained by other companies. But there are some precautions to be noted if such a method is to be used.

1. A large number of balance sheets should be taken from several companies for summarization purposes.
2. The companies supplying the data should be in a sound financial condition.
3. The different companies should be operating under somewhat the same conditions of operations.
4. The balance sheets needed should be of recent date.
5. The deviation of individual company ratios should not differ greatly from the average of all of them.
6. The accounting methods used in the several companies in question should be similar.
7. The business policies that affect the value of the ratios should be similar.
8. The products manufactured and sold should be similar.

The conditions stated here are of course severe. Perhaps they are so severe as to make it unlikely that a true standard value can be set up. But in the final analysis, a wise manager will try to set up ratios based upon an analysis of his own business which shows what *he must do* to make a profit. He will not be misled by a blind following and acceptance of what someone else is doing – something that may or may not be applicable to his own case.

2. Build for the Future

In this top management group which has devoted these past weeks to the study of modern scientific principles of industrial management are representatives from every size and type of communications equipment manufacturing concern in Japan covering the fields of telephone, radio, vacuum tubes and parts.

Your industry is made up of a large number of independent companies competing for government business, consumers markets, and foreign trade. Some of you have already begun to find practical application for the things we have discussed. However, many of you are wondering whether and how far you can apply these principles in your own companies. Even though you are personally convinced that practical steps can be taken we realize that you also have the difficult task of convincing other members of your company's top management that the principles are not only workable but are also necessary for your survival.

Throughout the course, as you know, we have presented relatively few things that are new to you. Rather we have attempted to analyse and develop, through scientific approach, the way all of the

many and varied activities, functions and personalities that make up management can be coordinated into a live, smooth-working unit for the attainment of company objectives. And as top management executives we believe you realize that the only way you can be sure of accomplishing these objectives is through a positive, forward-looking approach in coordination on your part. This is one of your major functions. But, as you know, we do not mean complete domination and personal control when we use this term.

This course in industrial management has been the easier part of the job. From here on out is the hard part. We know that it will not be easy to find ways to overcome tradition, to modernize the thinking and action of your company executives, to apply these scientific principles. But the extent to which you can accomplish these things will be a measure of how much analytical thinking for yourselves has been stimulated by the work we have done together. We believe you are convinced of the need for action and that you can bring about the establishment of both immediate and long-range objectives within your companies aimed at better management.

We are interested in providing practical material which may be helpful to you both in "selling" management modernization to other executives and lower management levels, and in providing some checks that you can apply to the things you are doing. To this end we requested, and have obtained approval from, an American magazine, "Modern Industry", whose aim is to reach "all management men concerned with making and marketing better products at lower costs" to reprint digests that will be helpful in the presentation of the modern industrial management concept to the Japanese Communications Equipment Manufacturing Industry.

Particularly appropriate in consideration of the problems of Japanese companies in improving their management is an article appearing in the March 15, 1949 issue of Modern Industry under the section devoted to "Men and Their Methods". This is a factual report on what one company, Harris-Seybold Co. of Cleveland and Dayton, Ohio has actually accomplished in three years under the guidance of an alert and aggressive top management headed by George S. Dively as president.

We were especially interested in this report for two reasons. First, the company is not large. It has only about 1,800 employees but now does a twenty million dollar annual business. Second, it manufacturers a variety of products including printing presses, power paper cutters and allied graphic-arts equipment. Such equipment is not in any sense mass-produced. Individual orders are not for large quantities of any single product. Further, the manufacturing interval on most of the company's products is quite long. The essentially job-shop nature of the business and long-cycle type of operation make one of the most difficult combinations for management planning and control. Now let us look at what this company management has actually accomplished in spite of what might have been considered too tough a job to handle.

Dively calls their method "Programmed Management", and it grew out of the conviction that *you can't set consistent policies unless you have a goal*. With programmed management the company has solved the problem of how to set a practical goal as well as how to guide and control operations in reaching it.

The structure of this programmed management has four main phases:

a. A Five-Year Guide

This is the responsibility of top executives and the directors. It is evolved from studies of existing practices and policies, from research into markets, products, finance, and business cycles - anything that will contribute to the arrival at sound planning.

b. A One-Year Operating Objective

Guided by the five-year program, executives of sales, service, engineering, manufacturing finance, and personnel, take a hand in setting the annual objective. The president, aided by the director of planning, coordinates the various departmental objectives, arriving at a realistic annual operating target. It is authorized by the directors.

c. A Quarterly Budget Plan

This sets goals for shipments and earnings and all major operations on the basis of meeting or bettering budget objectives on productivity and cost. It is largely developed by the director of planning *in close collaboration with administrative executives*. It is tied in with the annual goal.

d. Monthly Budgets and Control

Fitting in with the overall program, its main purpose is to check day-by-day operations. The financial department is primarily responsible for analyzing results and ferreting out trends. *These trends must be known both up and down the line so that quick action may be taken*.

This company considers research to be the strong arm of both planning and development. Progress is carefully watched in four research branches that are felt to be vital. These are:

(1) Product Research
(2) Market Research
(3) Industrial Engineering Research
(4) Management Research

One of the important items among the projects was the shift from committee management to line and staff. This shift was considered essential to the program's success. The president thinks *top management might well put much more of its time on planning. He knows it is impossible to do so if leaded with details*. Therefore, through the line organization he delegates responsibility, dealing principally with eight executives. *This leaves him relatively free to look into the future and think how best to prepare for it*. He considers that "it is important for subordinates to develop the capacity to take responsibility and make sound decisions".

But delegated responsibility requires constant check to see how well it is carried. In *addition* to *personal contacts*, information comes to the president through reports that give him what he needs to know in a *matter of minutes*. Conciseness is demanded.

As every executive knows, it is one thing to delegate responsibility, and quite another to make it stick. Dively has devised several schemes to keep responsibility pinned where it belongs. For example:

> Associates are dissuaded from running to the president with day-to-day questions by the simple expedient of refusing to answer them, except in an emergency. He is willing to spend all the time they want exploring the possibilities of an idea, but he won't say yes or no.

If you, a line executive of Harris-Seybold have a question to ask you don't. Instead you convert the question to a written recommendation and submit it for approval. *You get the facts, think the problem through, make up your mind* and *stand* or *fall by your decision*. Having put your idea on paper you sign your name. So do those who must approve and authorize it. Once authorized, men concerned are responsible for putting the recommendation into effect.

In addition to keeping responsibility from climbing back on the president's shoulders, this recommendation system has other merits. It is a most effective tool. It provides a means for management to give direct credit for a good piece of work; and gets positive action. And, since all recommendations do not have to have the president's authorization, he is spared time and distraction, because the majority of papers never reach him.

At Harris-Seybold, areas of command are well defined. Every supervisor knows what is expected of him. He knows it because he had to work out an outline of his duties, aided and checked by his superior, the personnel department, and an outside consulting service. But this does not result in complete restraint of the supervisor within tight boundaries. In speaking of this, Dively commented:

> "I've never felt that I knew enough about any man's job or his potentialities to put a frame around him. We leave a twilight zone around every (supervisory) job definition to give the more competent man room to expand and the less competent to shrink, without stumbling over each other."

He wants freedom for himself and thinks everyone else should have it. Great stress is put on raising a healthy crop of younger executives to mesh with the more experienced men in developing a well-rounded corporate personality. But youth, with its enthusiasm and aggressiveness, must be counterbalanced with experience. The Board chairman, vice-president in charge of sales, and vice-president in charge of engineering have combined service of 115 years.

Like-mindedness is not required. The executive staff is composed of eight quite dissimilar men. This dissimilarity serves the company well by giving it the benefits of diversified thinking. Nor is paternalism encouraged. The president considers that good employee

relations are best served by paying wages that are as high or higher on the average than those paid for similar work in cities where the company operates; by promoting within the "family"; by training supervision to apply real consideration to human problems; and by doing a good management job not only for stockholders and customers but for all employees.

Recognizing that two-way communications does not always flow freely, the president meets frequently with employee groups. One of the most effective practices is the open forum. Periodically, following a dinner get-together, written questions submitted, unsigned, by supervisors have to be answered *on the spot* by the *executives*. Employees thus get facts from the top, while top management gets a check on problems and policies down the line.

Incidentally, one of the objectives of the Five-Year plan was to achieve a physical volume 2½ times the pre-war average. This objective has been reached in three years since "programmed management" was initiated.

A second article, in the July 15, 1949 issue of Modern Industry under "Executive Methods", outlines 12 tests of a good organization. We particularly recommend that you study these tests and compare them not only with the principles we have discussed, but also with your present organization. And then, from time to time, check your progress by applying these tests to the job you are doing. As you will see in analyzing these tests they are not just "something that came out of a book". They represent the experience and viewpoints of many executives in American companies who have gone through the things your companies are faced with this minute.

Now what was the approach in the development of these twelve tests. Modern Industry presents it this way:

> "If we think of organization as a frame in which people can work happily and productively, then we can judge how good our own organizations are, and how they can be improved.
>
> That is the point of view from which the following 12 standards have been developed."

a. *The organization is in tune with the new Problems and Tasks it faces.*

Importance of industrial relations, public relations, and research has grown enormously in the past 15 years. But in many companies their authority, standing, and financial support haven't grown accordingly. They need strengthening as the problems they deal with grow in number and size.

Also, new conditions have created new management functions. Control, product development, training, and security are typical. They should be given place on the organization chart, and recognition in line with their importance.

One sign of a good organization is willingness and ability to change as problems change. If the weight of a problem isn't matched by the weight — in prestige, authority, and manpower — of the department that handles it, the company is in for trouble solving it.

Comparing the organization with the conditions it's called upon to face should include a study of fundamentals. Is the straight-line type, the functional type, or the line-and-staff type best adapted to life in a competitive world?

A line organization can move fast, and responsibility is clear. But line-and-staff can free top executives from detail and bring expert knowledge to bear on critical problems.

Each firm will decide according to the conditions it faces. But it's important to raise the question.

*b. The people who are Responsible for Results have enough Authority to **get** Results.*

This is another way of saying "Responsibility must be matched by authority".

It's not a new point. Sometimes it's considered trite. But it's basic, and more important now than ever.

The competitive era puts a high premium on flexibility. Yet no sizeable business can be flexible if key executive are loaded with detail that should be handed to others; or if the top man insists on supervising the routine of all departments. The only way to cure either condition is through real delegation, where both authority and responsibility are passed to someone down the line.

Flexibility usually calls for decentralization of authority — putting authority as far down the line and as close to the scene of action as circumstances and the abilities of subordinates allow.

One warning: Authority and Responsibility are team mates; authority without responsibility is as bad as its opposite. Encouraging people to assume more responsibility is one of today's great challenges to management.

c. The Company has a Program, formal or informal, for Training and Broadening Executives.

Competitive pressures in a fast-moving world bring out the shortcomings of the narrow specialist and the merits of the man with wide knowledge and broad point of view. But such men don't "just happen". They are created, either by themselves or by pressure from someone else. In either case, it's important to provide the opportunity for broadening.

This can take various forms. Larger companies can run their own development programs. Even a regular Monday morning discussion hour in the president's office, built around planned reading of key books and periodicals, is infinitely better than nothing — and any company can afford it.

As William B. Given Jr., president of American Brake Shoe Co., observes:

> "Intelligent guidance and development of those under him is the boss's most important job. Today a company cannot afford the extravagance of managers who are not competent teachers."

d. The organization can adjust itself swiftly to meet new conditions.

This is a critical test that will grow in importance as competitive pressure grows.

In a flexible organization, men and functions from different areas can be welded into an efficient team on short notice. Flow of ideas and information across formal lines is continual. Controls at the top are simple but effective. Authority is decentralized well down the line, at the scene of action.

Such an organization can move fast in an emergency, turn around twice while competitors begin to turn once. Yet it's difficult to achieve with a large concern, because of specialization in the personnel.

As one answer to this problem, Dr J. Elliott Janney proposed what he calls "the industrial equivalent of the Navy task force".

"One of the problems of the specialist" he points out, "is that he becomes so absorbed in his techniques and so deeply identified with his department that he loses sight of the company objectives.

"The basic principle of team work is identification. Where you have teamwork, each member of the team feels that he belongs to a group that is bigger than himself — he puts the good of the group ahead of his individual desires.

"During the war, the Navy detached specialized units from their regular departments — the battle fleet, the air arm, and the submarine service — and organized them into a combined fighting force to carry out certain special assignments.

"We need to do more of this in business. We can apply the Navy task-force idea by giving men from various departments a chance for common achievement in solving difficult problems.

"Advertising agencies do this frequently, when they discard departmental lines so they can organize working parties to handle a particular account.

"An example from industry is the small tool company where the customer-service section, technically a part of the sales department, is integrated with the mechanical superintendent's section in manufacturing. With this relationship, the two work together effectively in solving tricky problems that come upon metal working plants using the product."

e. The organization chart is strictly up to date.

Some sort of diagram showing lines of authority and responsibility is needed in all but the smallest companies, where one executive does everything.

Trouble appears not when charts are used but when they're misused — when they become an end in themselves, and are regarded as finished products not subject to frequent change.

Charts need to be approached with reservations. They should, for example, be used as a general guide to company structure; but never to discourage an informal flow of information and ideas through channels outside formal lines of communication between all ranks.

More important, the formal organization chart and the "informal organization" of the company should be parallel.

Another way of saying this is: Among the people in every organization, there is an informal group of relations that "just grows". It is built on personalities and individual abilities, and on the requirements of the work to be done.

Thus, it is a natural setup that no amount of force can twist to fit a formal organization that differs from it. You can see the informal organization at work in any plant or office — in the way people group themselves into teams, seek out certain lunch companions, decide whom they'll go to for advice, counsel, or support.

If formal and informal organizations didn't match, the formal organisation would mean little because people would tend to ignore it. But if the right men are chosen for leadership jobs, and if the formal organisation is fitted to the work to be done, the two organizations parallel as a matter of course.

Normally, an organisation chart is plotted by progressing from top positions to lower ones. But one company thinks it should be done from the bottom up because it's then more likely to fit the facts. When subordinates are asked to whom they report on what, the answer may include more people than their immediate boss would name.

f. An organization manual has been compiled — and it's revised often.

An organization manual goes a step beyond an organization chart, but the same principles apply. Putting down in black and white the responsibilities and authority of each function clearly, definitely, and in detail is a move many companies are now

making for the first time. Prepared correctly, and coupled with a statement of the company's objectives, a manual is an essential management tool in all but small companies, where personal contact makes it unnecessary. It offers assurance that assignment of functions is logical, and that no overlapping will occur on some matters while others fall in the middle.

If the organization is basically good, manuals can go a long way to pull it together, to speed up decisions and improve their quality, and to pin down responsibility for results.

Even more than with a chart, a manual must be kept up to the minute. Changes should be made regularly and frequently, as conditions change from month to month or week to week. Nothing is more confusing than an outdated and unrealistic organization manual.

To make sure that all copies of manuals are up to date, some companies provide them in loose-leaf form; executives receiving revised sheets must send back old sheets. Another company pays employees for pointing out that some regulation or procedure in the manual is unnecessary, just as it does for a more conventional type of suggestion.

Having the men write their own job descriptions is a good idea. It will reveal their blind spots and weaknesses; at the same time, they will include matters that the boss might not think of. And as in other activities, men who take part in shaping it develop loyalty and support for it.

Even if a manual is thrown away when completed, it is worthwhile. The more activity of working on it helps to bring understanding and develop teamwork in an organization.

g. A limited number of people report to each executive.

How many subordinates an executive must deal with directly is one good test of how well authority and responsibility have been delegated.

Experts consider from five to eight the largest number desirable. However, the right number varies with the work, the position, and the ability of the executive.

The chances are that a chief executive with more than six reporting to him is too pressed to do his Number One job — planning — as well as he should. But if he is unusually able and blessed with self-reliant men, six might work very well. And eight or more reporting to him is practical for the department head whose subordinates' duties are generally routine.

The number of men reporting to chief executives needs close study in every concern. Most authorities agree that one of the glaring organizational faults today is the number of top men who "don't have time to think". Only relief from detail will give

them the time. Because of this, one school of thought holds that the higher the position, the fewer should be the men reporting to the executive who occupies it.

h. *The duties of each executive are logically related.*

As everyone knows, people's interests, abilities, and knowledge move in channels. Mental equipment that's good for sales promotion work isn't likely to be right for research or credit management. So good organization sees that the duties of each executive call for related points of view and knowledge, and that the man who gets the assignment has the abilities needed.

The organization's size has a bearing here. Large firms can go in for narrow groupings of duties because they can afford specialized executives. But smaller concerns must work with broader classifications and require more versatile executives. As Marvin Bower, of McKinsey & Co., puts it:

"In developing the organization plan, judgement is needed in striking a proper balance between higher costs resulting from overspecialization, on one hand; and, on the other hand, higher costs resulting from ineffective supervision of too many activities."

i. Responsibilities are assigned clearly and definitely.

Certainly, this is one of the key factors in good organization. But to think of it as the most important point, or the only point worth worrying about, is a mistake. No matter how sharply responsibilities are assigned, they mean little unless the organization is staffed with people able, and in particular eager, to live up to them.

One cause of diffused responsibility is overuse of committees. Well handled, a committee can be fine for generating ideas and getting reactions. But it's a doubtful instrument for making decisions. And it cannot act effectively.

If a company has a ponderous line-up of committees, and if executives spend a good deal of time in meetings, then it's likely that decisions are being put off and responsibility for results is fuzzy or being dodged altogether.

To quote Mr Bower again:

"Organization establishes positions, which consist of logical groups of activities that need to be carried on.

"If the grouping is fitted too much to the particular man who is to fill the position, others can't be trained well for it.

"If the activities assigned to the position are not clear, duplication may result, confusing and frustration are inevitable, waste follows, and corporate politics will usually not be far behind."

j. *Communications among people in the company are good — up, down, and sidewise.*

Communications are the rivets that hold an organization together, without them, it falls apart.

Good communications meet two specifications:

First, the channels provide a two-way flow in all directions. They lead to and from the executive's boss, his subordinates, and men on his own level — up, down, and sidewise.

Second, the communications are designed as a means to an end — to develop understanding. Words are only the tools. A communications system may carry a full load of words. But if the words that flow through communications channels fail to develop understanding — a feeling of participation and teamwork — the system is useless.

k. *Proper balance is maintained between flexibility and control.*

Because a competitive era calls for every bit of initiative and ingenuity possible, flexibility in an organization is a "must". But so is some sort of control over it.

In small companies the problem may be minor. Personal contact is frequent, and it is relatively easy to keep track of what is going on. Larger companies, though, must depend on formal practices and procedures for control — which they get all too often at the expense of flexibility.

Less attention to control, and more to morale and outlets for initiative, would pay many times over. True controls, those that really count, lie in the attitudes of people. Elaborate cost controls mean little in an organisation of extravagant-minded people. But an organization of profit-minded people has strong cost controls regardless of the strength or weakness of its formal cost-control system.

l. *Key executives realize the importance of human relations.*

An organisation is, in the end, nothing more than an arrangement that makes it easier for people to work together happily and productively. So it can be no better than its human relations — notably, those of the people at key points. They *like* people, get a kick out of giving others a sense of participation.

Nevertheless, some executives act as if they just don't like people and want as little as possible to do with them. Businesses can no longer afford to put up with this dangerous attitude.

The great unsolved problem of management is that of getting people to work together productively. Their attitude toward the boss is the key to its solution.

m. Toward better organization.

Said the late Harry Arthur Hopf, the great management authority who formulated these points:

"It is my conviction that if progress is to be made in organization, executives must subscribe wholeheartedly to the truth of these tenets and always act upon their implications."

(1) To adhere to the substance of organization, rather than to worship the form in which it is cast.

(2) To view organization as a means to an end, rather than as an end in itself.

(3) To recognize the values inherent in improvisation, rather than to rely exclusively upon the virtues attaching to organization.

(4) To insure liberation of human energies, rather than their suppression or regimentation.

(5) To respect the authority of knowledge, rather than the authority of position.

(6) To strive for the maintenance of loyalty on the part of executives to their subordinates, rather than stress the essentiality of the reverse process.

(7) To develop well-rounded and intellectually well-balanced executives, rather than one-sided and narrow specialists.

(8) To imbue executives with a spirit of tolerance toward one another, rather than permit the existence of conditions productive of intolerance.

(9) To inculcate in the minds of executives the wisdom of rendering themselves dispensable, rather than of cherishing the illusion that they are indispensable.

(10) To sacrifice almost any other value rather than cause injury to the foundations upon which inspiring leadership rests.

"Modern Industry"

n. Appraising an organization's leadership.

An organization can be no better than its leadership. Here are 18 tests for measuring a leader. They were developed by Carl F. Braun, president, Carl F. Braun & Co., Alhambra, Calif., producers of processing equipment.

(1) Do we like him, like to have him around, find him restful to be with? Or does he stir up resentment by untactful criticism, by pushing himself forward too much, or by other inconsiderate conduct?

(2) Does his eye seem to be fixed chiefly on his job and on the welfare of his people? Or is he concerned rather about himself and his own welfare?

(3) Does he work well with other leaders? Or does he have a tendency to work in a corner?

(4) Does he run his job? Or does it run him? Does he take the proper time for organizing the work? Or does he simply attend to the daily things that press upon him?

(5) How well does he organize the work of his group in writing?

(6) Is his ability to write in keeping with his job?

(7) Is he good at presentation in general?

(8) Does he have the qualities of a good teacher, imagination among them? And is he consistently developing these, and applying them?

(9) How well does he maintain discipline? Remove the unfit?

(10) How much studying does he do relating to the purposes of his department?

(11) How much studying does he do relating to general social problems — as covered, say, by psychology, sociology, ethics, economics, philosophy, and such other social sciences as apply to our work?

(12) Does he have a natural sympathetic understanding and interest in people — in individual people and their needs and problems?

(13) Does he have the enthusiasm and other qualities that create an atmosphere of interest and friendliness — an atmosphere that promotes spontaneous cooperation and effort?

(14) Does he have the qualities of calmness, stability, steadiness, and fairness — qualities that invite confidence, that enable his men to work without confusion, apprehension, or distrust? Or does he tend to go to extremes? Or, by a too-nervous activity, keep people in confusion and unrest?

(15) Does he have a good sense of proportion, distributing his time, his interest and his sympathy, fairly over his whole job? Or is he prone to favoritism either of work or of people?

(16) Can he think clearly and justly, and without undue emotion?

(17) Does he have imagination for new possibilities, improved means, better methods? Or does he just follow the rut?

(18) Does he have the ability to make decisions on insufficient evidence, and the faith to act on probabilities?

o. Before leaving these tests let us look at a few statements by experts given in the presentation of this article:

"Organization is a problem in human relations."

Dr J. Elliot Janney of Rohrer, Hibler and Replogle

"Organization deals with human emotions, ambitions, and personal effectiveness. The organisation plan is the harness within which men work."

Marvin Bower of McKinsey & Co.

"Organization is not a cold organization chart and a cold manual. It's the welding of a lot of personalities into a smoothly functioning unit. Organizations are men and women, and they are all different individuals. The best plan in the world won't work if the people don't."

Robert C. Trundle of Trundle Engineering Co.

p. The above articles were digested and incorporated as a part of the Industrial Management training course of CCS, GHQ, SCAP with the approval of H. E. Blank Jr., Editor of "Modern Industry" in memorandum dated 19 September 1949 to C. W. Protzman.

3. Establish the Elements for Success

Repeatedly, in our consideration of management principles, we have referred to coordination as one of the basic responsibilities of all management employees. One definition of coordination, which is appropriate in the consideration of operations, is:

"Coordination is the process of bringing all the functions and operations into harmonious action for the effective achievement of the company's objectives."

You will note, in studying this definition, that it is positive. Someone has to actively do something. Actually, every management employee from the president to the foreman must bring all the functions and operations of his immediate subordinates into harmonious action. He must be able to take all of the individuals who make up his subordinate group, an organization form that has been planned, and inanimate machines, tools, materials, etc., and weld all these things into something which has unity of purpose and life.

The managements of the most successful companies have learned that no matter how mechanized an industry becomes, people never become machines. In order to achieve the most lasting success, they must make of the business something that recognizes people – something that is human. And the more complex and mechanized the business, the greater is the need for emphasis on human values.

But how is this accomplished? We will consider *three specific yet closely inter-related* items in our attempt to find an answer to this question. They are:

Leadership

Teamwork

Communications

a. Leadership

In the old days in industry, the term "leader" was synonymous with "boss". And the "boss" was an autocratic ruler who considered his subordinates as mere cogs in his industrial machine. He was supreme, and his people obeyed his dictates as automatons and frequently without even thinking for themselves.

But times have changed. Management people are coming to realize that this old style "leader" or "boss" was not truly efficient and that his concept of management was unsound. People sometimes have to submit to autocratic domination because of economic conditions.

But they do not like it and develop a passive resistance which lowers efficiency. In time, their resentment may flare into rebellion. One of the early causes of employees forming unions was just such rebellion. Even today we see examples of dissension between management and the union because either one group or the other is taking an arbitrary or dictatorial stand and inevitably this is resented by the other group. And while such resentment is usually not as obvious within management groups, you can be sure that it is there, and just as strong, if the "boss" is autocratic. Because, after all, even supervisors are people.

An excellent review of the things it takes to be a leader in the newer concept was published in the magazine, "Modern Industry", in the April 15, 1949 issue[¥]. Since it is so well presented, it is incorporated here in briefed form, both as a summation of modern concepts, and as a yardstick for measurement of your own position.

"Executive leadership — the leadership needed to manage organizations — is different from other kinds of leadership, and more exacting.

[¥] Incorporated with permission of "Modern Industry"

"Leaders in other fields can often lead through intellectual ability alone. But that's not enough for executive leadership. Nor is pure administrative skill. Any large organization contains examples — people who are good at getting things done themselves and at organizing simple tasks for others, but who clearly lack the golden quality of leadership. Nor is ability to handle people enough, if other qualities are absent.

"True leadership in executive management demands more than intellectual ability, or ability to handle people, or administrative ability, it requires a combination of technical skills and personal qualities that includes all three.

"Some of the leader's technical skills are in areas of management. These consist of the knowledge of marketing, production, personnel, finance, purchasing or other function that is needed to run a department or the division or the company. While many men have made good in executive work without initial knowledge of the technical side, it is nevertheless a big help to have this information at the start. Usually, it's required even to get that start; and sooner or later the man must acquire it. The sooner he does it, the better, of course, for himself and his firm.

"Another kind of technical skill is administrative. This includes knowledge of organization, of how to delegate, of how to pay out work schedules, of how to select, train, and develop people.

"These skills, too, can be acquired. No one is born with them. Every leader had to learn them somehow.

"And what one can do, many can do.

"But technical skills are not enough. True executive leadership has something above and beyond them that can only be described as personal characteristics.

"Many of these cannot be learned; people either have them or do not have them. On the other hand, it is possible to acquire some of the personal characteristics of leadership, or at least compensate for the lack of them. They are latent in a great many of us, awaiting only awareness of what they are, of their importance and of ways to develop them.

"What research psychologist say, when you translate their terminology, is that the personalities of the leader is the element that set him apart from other people in these ways:

They trust him.

They will follow him.

They have confidence in him.

They will submit voluntarily and eagerly to his direction.

"In short, the personality of the leader is made up of his point of view, his attitude, and his actions toward other people. The central, basic fact about him is this. He is a leader because his attitude and actions make other people willing and eager to follow him. This is why he is so effective in handling people, in getting them to do what he wants them to do.

"What are these attitudes and actions? What are the personality guideposts to executive leadership?

"No truly scientific answer exists. Research on the subject, though greatly needed, has only just begun. Yet a practical answer, close to the truth, may be found by combining existing psychological research data; studies of human motion and human motivation; surveys among both leaders and followers; intensive interviewing among both leaders and followers; intensive interviewing among a wide range of business executives; and a liberal seasoning of direct experience and a observation.

"These add up to the following personal characteristics of true executive leadership:

"**1. He is dynamic**

"The quality of being dynamic or active is characteristic of all true leaders of men. It can't be acquired.

"The quality of being dynamic means striving always to drive ahead, to break new trails, to engage in new ventures, to discover new things, to move into the unknown. It is a desire for change, scepticism of things as they are, an urge to stay ahead, to do better, more ambitious things. It is a wish for growth and an abiding fear of stagnation. And it shows in an urge to accomplish.

"Two points about this dynamic quality are worth particular attention.

"First, it may or may not show on the surface.

"Not all leaders, or even most of them, have 'high-pressure' personalities; nor are all people with high-pressure personalities leaders. Confusing high-pressure personality with leadership ability is the reason for countless mistakes in assigning people to leadership positions.

"The second point is a dangerous tendency, in some recent studies of management ability, to play down the importance of this dynamic quality.

"There's a trend toward putting most stress on the way the executive gets things done, organizes his work, handles his people and applies his knowledge of organization and detail.

"But unless he also has an urge to forge ahead and do new things, he is simply administering things as they are and maintaining the 'status quo'. In the end, he will probably administer his company or organization right into the ground. Governments and

institutions are the great gathering places of this passive administrator. His eye is on a pension, not on real progress.

"**2. He has a strong sense of personal responsibility.**

"The leader feels that he has definite responsibilities to the people under, around, and above him. He feels he is answerable to them for what he does. He has a deep desire to live up to their expectations, and to exceed them. Because of this, others find him 'dependable'.

"Today, this leadership sense of responsibility is broadening. Not many years ago it was limited to those immediately around the leader, or at most to the stockholders. Now this sense of responsibility is fast being extended over other areas as realization spreads that the great power held by the managers of industry must be matched by a sense of responsibility equally broad and deep.

"The result is that the true business leader today makes his decisions on a far broader basis and by drawing on a far wider range of facts. To satisfy his increasing sense of responsibility, he must not only decide secretly from the standpoint of his associates and his financial backers. He must also take into account the implications his decisions hold for employees, the community, and the general public. Unless his decisions can stand up under these tests, he is not satisfied.

"**3. He earns the following of the people he leads.**

"The first-rate executive leader, either instinctively or through experience, knows one thing above all others: A leader can't be a leader unless he has followers; and followers, by definition, follow voluntarily. A driver cannot be a true leader, and he cannot get the results a leader will.

"Whether he does it consciously or instinctively, the leader uses a number of methods to win followers.

"For one thing, he leads by letting others take part in the leadership. He takes his people into his confidence, shows them where he's going and why, then gives them responsibility and authority so they can help him reach the goals. He passes down the line the power to make plans and decisions in order to develop a sense of participation among his followers.

"Also, he earns his people's loyalty by being loyal to them. He knows that loyalty is a two-way street. He stands behind their decisions because it develops their confidence and competence, and in the end guarantees the highest possible number of right decisions: He even supports occasional bad decisions in the knowledge that only inactive people avoid making mistakes.

"In addition, he can inspire his people. But the method varies widely, depending on the personality of the leader himself and the people and conditions he deals with. Sometimes it's done by pep talks, rousing speeches, or steady needling. More often, it's by quiet hints,

indirection, setting goals for people that pull them into doing better than they realize they can. Always he inspires his followers by showing confidence in them.

"He also leads by keeping a step or two ahead of his people, making them go forward because he is ahead of them, pulling, rather than pushing from behind. But he is also careful to keep within their sight; getting too far ahead of his followers is bad because it confuses them.

"**4. He has a strong 'feel' for people.**

"The leader is interested in people. He likes and respects them, and they do him. Because he has developed the knack of putting himself in the other fellow's shoes, he knows how they react to different situations and how to use these reactions to get them to do what he wants.

"Persuasion and suggestion are the two reins of leadership; commands or orders are used rarely, if ever. He has tact, diplomacy, warmth, knowledge of motivation, the ability of reading people's minds that the psychologist calls 'social insight'. He is thoughtful and considerate of his followers. And he has a deep-rooted conviction of the dignity of man.

"At the same time, he isn't necessarily a 'good fellow'. He knows that discipline of the right kind and degree is important in reaching the goals he has set. Maintaining that discipline is simple because he has the respect and liking of his group.

"**5. He is competent.**

"He knows his job and how to do it. He seeks to build other people's confidence in his leadership partly through sheer technical competence. He applies the principle of leading by doing, but experience in watching the best of craftsmen fail as foremen has shown him that this is only one side of leadership.

"He has organizing ability because the kind of leadership he must exert works only through sound organization. He must lead through the leadership of those under him, which can be done only if there are organizational channels for doing it.

"He has intellectual and creative capacity. Others in his group may exceed him in these qualities. But the leader has the ability to draw on ideas and information from all sources, to look at them from fresh angles, to synthesise them, and to come up with a final proposal that wins the support of his group because it is better than any one of them could have devised.

"**6. He is adaptable.**

"The methods of effective leaders change according to the people concerned and the conditions that lie in the background.

"A sensitive subordinate requires one kind of handling, a man who takes the bit between his teeth another, an 'idea man' short in self-discipline still another.

"In the same way, the techniques of leadership that get results in a crisis may be bad for the long pull.

The leader who can adapt himself to all conditions is exceedingly rare. This is why there is so often a change of leadership in an organization when basic conditions change.

"**7. He has strong and consistent standards of personal conduct and business morals.**

"High personal morals and good business ethics are the foundation of the kind of responsibility the business leader must face today. He must set the pace and the pattern for his group in conduct and methods as well as in goals. They must be in a consistent, predictable pattern if his people are to follow the lead he gives them. Failure to live up, himself, to the standards he sets for others is unforgivable in a leader.

"This characteristic of leadership — high moral and ethical standards — is clearly one within the control of most people who want to be leaders. And it is one that they can develop in themselves — if they have the strength of will to do it, and if they can be made to see the overwhelming need.

"Ethical and moral standards are one of the great differences between the man who exerts real leadership and the one who, while possibly good a leading others, falls short of the ideal.

"History is crammed with leaders who were false because they led to goals that are morally wrong. Hitler and Mussolini were good technicians at leading people.

They knew all the tricks of the trade, and were masters at applying them. But the goals they led to were false because they violated basic moral and ethical rules, and so they failed.

"The same thing is true of Stalin and Franco, except that their lack of moral and ethical standards hasn't caught up with them yet.

"**8. He has character.**

"'Character', in the last analysis, is the sum of many other qualities of leadership. It is made up of

"Integrity	—	a high set of moral and business standards.
"Consistency	—	sticking to these standards, regardless of pressure or the apparent value of expediency.
"Sincerity	—	depth and strength of feeling.

"Responsibility	—	dependability, feeling of obligation to other people, refusal to let them down.
"Stability	—	steady, consistent attitude toward developments and people.
"Decisiveness	—	ability to make decisions of a kind and in a manner that win the confidence and backing of others."

b. Teamwork

It is a natural human trait, possessed by every one of us, to want to excel. We want to be personally prominent, to achieve a position where we will stand out, where we will feel that we are important, that we are necessary. In its most exaggerated form, this trait leads us to believe we are the only one who can properly do the job, and that others with whom we associate are all inferior in brains, ability or experience. Then we become the "indispensable man", without whom no decisions can be made, no ideas worthy of consideration conceived, and no sound action taken.

But along with this universal trait is another that is probably equally as strong. This is the reaction any of us has in dealing with someone who considers himself "indispensable". We resent the omnipotence of his decisions, and chafe because we don't have an opportunity to express our own views, or show what we are capable of doing. And whether this person is a superior, or an associate, we do not work together with him. As a matter of fact we avoid him as long as he continues to take an omnipotent attitude.

However, no company can afford the luxury of permitting individuals to place their own position or progress ahead of the good of the company, because when this happens, every employee who has the ambition or desire to do so will have an example and precedent to act upon his own private goal or objective. Usually, such individual goals are purely selfish, and the result is a number of independent units or groups, each led or dominated by a strong personality, and each going its own separate way without regard to the effect it will have on other employees or on the company. Experience has shown, over and over, that companies in which this condition exists will ultimately deteriorate and fail. This is simply one of the economic facts of life that cannot be avoided or ignored.

When an individual goes to work in a company, his first interest is in making a living. Next, he is interested in bettering his position or making a better living. If he is a workman who is part of a group he soon realizes or is made to realize by his associates that his contribution to the group effort is important because unless the job is done properly he will soon be looking for another job.

But when this individual becomes a supervisor, a part of management, he often fails to realize that he has assumed the obligation and accepted the responsibility of striving for certain objectives of the company. These objectives are to meet the company's obligations for programs, schedules, quality and costs. For the success of the company, and the ultimate achievement of his personal objectives, he must work primarily for the company's objectives. These can best be accomplished through teamwork, which can be defined as follows:

> "Teamwork is the work done by a number of associates, all subordinating personal prominence to the efficiency of the whole."

If we consider this definition for a moment, we will see that teamwork is something that is voluntary. We cannot depend on a law or a rule that says that we must have teamwork, or cooperation. People must want to work together and must realize that by working together they also have the best chance of reaching their own individual objectives.

But where must teamwork start? Earlier we talked about the fact that each of us, either consciously or unconsciously, picks up mannerisms, methods of approach and ways of doing things from those for which we work.

If our superiors are "indispensable men", then we also tend to be indispensable in the same disagreeable and destructive way. On the other hand, if our superiors recognize the advantages and the necessity of working together with their associates and subordinates, then we tend to do the same.

So, for full effectiveness, teamwork and cooperation must be established by the attitude and example of each management level from the president down. It must be encouraged by the day-to-day manner in which every management employee does his work and deals with other people.

The magazine "Modern Industry" established a research project some time ago in order to determine what policy steps had been taken by successful American companies to develop teamwork in their organizations. These were summarized in the Sept. 15, 1949 issue of this magazine and are listed here as a practical reference based on accumulated experience in progressive industries[¥].

"The complete report on MI's research project is available in 'Teamwork in Industry', by William Sward, a Modern Industry Book published by Funk & Wagnalls Co., New York.

"Here is a summary of Seward's findings, which are based upon specific firms.

"They include detailed case studies from such companies as Bulova Watch Co., Leeds & Northrup Co., McCormick & Co., Metropolitan Life Insurance Co., Esso Standard Oil Co., Dennison Mfg. Co., Baldwin-Hill Co., The Kendall Co., Western Electric Co.

"If all elements of an organization — employees as well as management — are to be aware that all have a responsibility in helping to make cooperation between management and labor a daily reality, says Sewart, then management must be guided by 12 principles which have been proved sound:

[¥] Incorporated by permission of "Modern Industry"

"**1. Management's house must be in order.**

"Before management may hope to bring about an improved labor-management relationship, it must see to it that workers are paid fair wages and that good working conditions are maintained.

"Provision should be made for such benefit plans as the situation demands, such as group life insurance, health and accident insurance, and, whenever possible, for vacations with pay, and athletic and recreational facilities.

"There should be a modern first-aid clinic with full or part-time services of a doctor as well as of a nursing staff.

"**2. There must be equal opportunity.**

"Every worker must have the conviction that there is identical opportunity for all, that management plays no favorites, that he has an equal opportunity to upgrade himself, regardless of his present job or foreman.

"**3. Establish promotion from within.**

"The employee must be confident that whenever a new job is open in the plant, he will, if qualified, have an equal chance with other employees to assume its duties and responsibilities, and to realize on its larger opportunities.

"He must have the assurance that management, whenever possible, will promote from the ranks and not go outside to fill a job, unless it calls for specialized skill or training which cannot be provided at the plant or through the company's affiliates. That is concrete evidence of the firm's fair dealing.

"**4. Decisions must be understood in advance.**

"Every management decision that affects the employee in his daily job must be understood by him, and accepted in principle, before that decision is formally announced and put into effect.

"The bulletin-board notice or the formal announcement in the employee newspaper must never be news to the worker but, rather, a formal confirmation of what he already knows and understands.

"**5. Management must keep workers informed.**

"The worker has a natural desire to know all about those matters that concern his job, his place of work, and the affairs of his company.

"It is to management's interest to see to it that he promptly gets accurate, straight forward, and understandable information on all such concerns.

"Management must always be in a position to transmit information at the psychological time — not after the event nor so far ahead that its impact will be lost.

"**6. Opportunity must be a reality.**

"It is not enough to adopt the principles of equal opportunity and promotion from within. The worker must know from actual experience that he really has the chance to get ahead.

"He must know that he may progressively advance from one job to the next, from one supervisory position to the next higher one.

"He must be convinced that his ability to advance is dependent only on what he can do, upon his willingness to train himself, and upon the condition of the business.

"Management must also constantly keep before workers the realization that there are other opportunities than those that reside in the job itself, and that these opportunities are desirable and important in themselves and help enlarge the opportunities of the actual job.

"**7. Workers and management must keep in touch.**

"The industrial plant is more than a place to work. It is a social institution.

"On both counts it is essential that management and the workers know what one and the other are thinking about and doing.

"Neither workers nor management can do their best work unless the lines of communication are always open in a two-way circuit from the bottom to the top.

"**8. The worker must understand the job.**

"No intelligent human being can be expected to devote himself enthusiastically to his daily assignment unless he understands the relationship of that job, to all the others in the pattern.

"When the individual worker does grasp that relationship, he approaches his task with greater interest and enthusiasm and is likely to be a better worker.

"**9. Workers must be treated as people.**

"In the century and more of our industrial civilization, the practice and principle of treating workers as social beings has, when honestly carried out reduced labor troubles.

"It has done so because, in the very process, management has demonstrated to the workers that, as social beings, both have the same fundamental objectives, the same hopes and ambitions; that they have the same desire for recognition as members of a social group, as citizens in a community, and as members of a family group.

"**10. Workers need more than wages.**

"Management must recognize the principle that the labourer is worthy of more than his hire. He is worthy of compensation for more than a day's work when he contributes more than that.

"When the worker shares in the profits of the business, on whatever basis is deemed to be fair and practical in a particular company, he becomes a better producer, because he has a definite financial stake.

"When the worker can look only to wages for his compensation — even though his pay may be relatively high — he does not have the same attitude toward his job as does the man who can look forward to his fair share of what the business earns, over and above his pay.

"When a company makes it a practice to declare dividends for the workers — whether these dividends take the form of bonuses or a proportionate share in earnings or actual dividends on stock held, or in any combination — that is also, in effect, telling workers that they are worthy of more than their hire.

"**11. Employee representation: better management.**

"When workers are invited and encouraged to participate in the affairs that concern them in the daily jobs, they usually assume a greater sense of responsibility toward their work because they, too, are managing.

"Employee representation means that the workers are given an awareness of their status as members of the team.

"Accordingly they tend to develop a desire to do a better job for everyone on the team. Employee representation helps release the potentials of workers, thus enabling management to capitalize on employees' capacities for the benefit of the business.

"Employee representation, finally, has the effect of developing in workers the personal pride that comes with participation.

"**12. Management must look to own training.**

In preoccupation with its many problems, including responsibilities to employees, management is all too likely to neglect proper consideration of how its own representatives handle their duties, and to training them for better jobs.

"Continuous training of management men is just as essential to the proper functioning of a successful human relations program as is the day-to-day training of the men and women in the shop.

"First, such training is necessary for the most efficient operation of the entire company.

"Second, training of management men emphasizes to all employees that neither training nor opportunity stop when the management level is reached."

You will note that while the emphasis in this article is on management-worker relationships, the policies that are outlined apply equally in the inter-relationships within management. It would actually be impossible for the companies whose policies were studied to develop these management-worker relationships without having first built up the concept, recognitions and acceptances of these policies among management people.

c. *Communications*

The efficient operation of any business depends on the clear, understandable and rapid transmission of: information and data (facts), instructions and orders, ideas, suggestions, comments, and complaints or grievances between all parts and levels of the company. We can call this an industrial communications system and it is the catalyst that makes leadership and teamwork effective.

You will note that in defining industrial communications we say that it involves transmissions, or communication between all parts and levels. It is not just a one-way channel where the "boss", acting as a transmitter, broadcasts orders and instructions to his subordinates and they merely listen and obey. Communication must be multi-directional. In the case of every management employee, communications must go up the line to superiors, down the line to subordinates and sidewise to associates on the same level. Worker communications must go up the line as well as come down to them from above.

These must be definite, recognized "lines of communication" in industry just as in any other communications system, and these must be properly maintained. In the case of other communications systems we depend to a major extent on mechanized equipment to mechanically and electrically make the connections. But in industrial communications, as we are considering them, our major dependence is upon people.

Therefore, at the heart of industrial communications must be the recognition by every employee that such communication is not only desirable but is, in fact, essential. The sincere desire and effort on the part of every employee to keep all the lines of communication open and working is the secret of success in this field of industrial endeavour.

Making communications effective requires the transmission of ideas, information and instructions in clearly understood form. The June 15, 1949 issue of "Modern Industry" provides an excellent review of this subject. That article is summarized below.[¥]

"Success or failure of a company, or of an executive's career, may depend upon a single idea and how well it is put across by the man who had it.

[¥] Incorporated with permission of "Modern Industry"

"There is no market for genius in a bottle. Executive ability cannot exist in a vacuum. Like a dollar bill, it is useless until it is put into circulation. And it should be noted that in the world of ideas, as in the world of dollars, you cannot live forever on credit — a promise to deliver later.

"What to do with an idea after you have it seems so obvious — like what to do with a dollar after you earn it — that many men are unaware they are spending their ideas foolishly — getting less than full value for the labour of their brains.

"When an individual develops a good idea, he's halfway to performing a valuable service to his company and to himself, as well. The other half consists in getting the idea put into action.

"The payoff comes, for both company and individual, when other people understand the idea, accept it, and help put it in effect. This is true whether the individual is a top man, giving leadership to the whole company, or a subordinate making a report and recommendation to the top man.

"A scholar or a technical expert can often work up good ideas. A good salesman can sell them. The man at the top, or the one heading for the top, should be able to do both if he's to be a real leader.

"Unlike good looks, fortunately, ability to convey ideas effectively can be acquired, cultivated, built up. There is an art of effective presentation.

"A handful of companies include some part of the subject in their courses in executive training for men already arrived, as well as for those on the way.

"In a firm where the top man requires subordinates to present him not with problems but with recommended solutions to problems, the executive down the line must know how to make a good presentation.

"He cannot go to his boss and say, 'Here's my trouble; what shall I do about it?' He must get his own answer, and he must present it convincingly or begin, after a few misses, to look like the wrong man for the job.

"Such a system operates in the Bigelow-Sanford Carpet Co., where top executives are expected to present problem solutions to President James D. Wise in such complete fashion that he can decide 'Yes' or 'No' on the basis of the presentation made to him, without further investigation, if he so wishes.

"Obviously the individual who may have a good idea but can't explain it or get it accepted might as well have a bad idea or none at all.

"Fortunately, however, the very process of organizing material sharpens up the thinking and eliminates a lot of the vague, illogical, or meaningless remarks which may deceive anyone into thinking he's saying something, when he's only talking.

"Organization of material ranks high among these principles of presentation culled from the practice of management men and consultants who have studied the problem:

"1. Put it down on paper.

"Pay your idea the respect of putting it in writing. If it's sound, it will stand being written, may be improved. If it's weak or no good, trying to put it down in logical order may show up the thin spots. Some men sell themselves on an idea so readily that they forget others may have more sales resistance.

"Writing the idea down forces you to recheck your analysis of the problem and your choice of solutions; may help point up other factors that have to be stressed in conveying the idea to associates.

"2. Determine your objective.

"Is it to 'tell 'em, 'sell 'em, or ask 'em?' Have you made a decision and do you now simply wish to inform others of it? Do you want to persuade the group that the course you suggest is the right one or the only one? Or do you want to consult with them and get *their* advice, have *them* help decide the best solution?

"The objective will determine to a large extent how the presentation is made. The number of occasions on which an executive wants merely to 'tell' a group something is growing infrequent, although in answers to enquiries on the subject, top men in some old-line, well-established companies have said that 60% of their presentations were of this kind. Only about 20% were the 'sell 'em' and 20% the 'ask 'em' type.

"In a younger organization, or a more progressive one, the proportion is usually closer to 25, 35, and 40%. Authoritarianism is giving way to democracy, or at least to persuasion, in industry.

"In a modern organization, where every minor executive is encouraged to strive for the top jobs, and professionally trained men are replacing the self-made men, questioning of the 'tell 'em' type of pronouncement from on high is natural. The leader must *win* support, not *command* it, even in executive ranks.

"3. Tell how you came to your conclusion.

"It's a long road from problem to correct answer. The executive may arrive at the conclusion in an initiative flash, because the reasoning follows a road that's old to him. Or he may labour over the solution for months.

"In either case, if he gives his answer without telling how he arrived at it, he may leave his 'fellow travellers' far behind him. If they could reach the same conclusion in a flash, they would probably not be his subordinates. Or the solution may depend upon special

knowledge that is simple arithmetic to the man who's reporting, but higher mathematics to the one or ones he's reporting to.

"To judge his idea properly — and to improve their own knowledge and ability to serve the company — the others need adequate explanation of how the idea was reached.

"4. Tell them how they can do what your proposal will require of them.

"Biggest barrier to a new idea — doing a thing a new way, solving a problem differently from in the past — is often people's fear of the unknown.

"Failure to explain how those involved can do the jobs proposed for them will at best delay their acceptance of the idea, at worst make them hunt for reasons to oppose it.

Demonstrating how to do it speeds approval.

"Extra time spent in figuring out the answers to how they can carry out your idea will usually pay off well.

"5. Show each man the opportunities your idea offers for him to fulfil some personal need or desire.

"Some people work for advancement, some for security, some for prestige, some simply for the pleasure of taking on new tasks and doing them well. All, presumably, work for the company, also, but it is folly to ignore the personal motivations in presenting an idea for acceptance.

"The difference between ho-hum approval and coats-off support of a proposal often lies in the proposer's ability to appeal to the highly personal interests of his audience.

"If you are an accountant and I am an engineer, a suggestion that solves a problem of yours may leave me cold; a suggestion that solves a problem of mine may leave you cold. The successful leader is the man who can show how his idea — designed to aid our common employer — can aid each of us.

"Men who work in industrial organizations where teamwork is good can cite their own cases. They will know how planning sessions sometimes bring out enthusiasm and ideas that lie dormant while routine jobs are in order. Reason? Men are eager to plan the future because they see hope of moulding it closer to their hearts' desires.

"The executive making a presentation will aim it at that hope, knowing his associates have emotions as well as minds.

"6. Dramatize your presentation.

"Give your answer first, then explain what led up to it, and half your listeners will assume you are rationalizing and pay no attention.

"Present a problem, analyze it, list the alternative solutions, keep your own choice of best solution a surprise until the last possible moment — and you'll have them listening with both ears from beginning to end. Uncertain what the key points will turn out to be, they must soak in all of them.

"That's one simple way of dramatizing a presentation, and a legitimate one. There are others.

"If the idea, the problem it solves, or the thinking that led to it lend themselves to visual demonstration, use visual aids.

"It is a fact that some people never think of using visual aids until they are talking before a group so large no one beyond the first couple of rows can see the charts or pictures. That's a mistake.

"A meeting of two minds is often helped along by a good graphic description — as thousands of pencil-marked tablecloths will bear witness. The jump from scribbling a design or an outline on a tablecloth to making a chart for a meeting of three or four or a half dozen men seems to be a touchy one. But it's worthwhile.

"Some means of showing pictures, charts, or only briefly worded outlines help not only to dramatize an idea, but to keep discussion on the main point. Talk may veer off, or go into details, but so long as the main theme is boldly outlined before the conferring group, the job of keeping discussion on the subject, keeping the subject in everybody's mind, is greatly simplified.

"7. Cultivate your speaking voice.

"Not every presentation is made as a talk, but most are. Learning the tricks of using your voice is worth time and effort. Some do it through lessons in elocution, perhaps the most painful way. Others by inflicting themselves on small and inconsequential social groups. Others through company classes in speaking, or executives' clubs that specialize in giving members an opportunity for speaking training.

"Still another, and later, technique is the use of courses that are based on books but use records as examples and tell how to check one's own progress in training through self-made recordings.

"An example if a method used at Westinghouse Electric Corp., soon to be issued as a Modern Industry Book, with records, by Paul D. Stokes and Gray Carpenter.

"8. Make your language a tool, not a weapon of offence.

"Some men who can explain a matter simply to a single listener retreat into a kind of mumbo-jumbo English that disguises their meaning instead of disclosing it, when they talk to a larger number. This may be a result of trying to observe all the injunctions of their

lawyers or their public-relations men, or both. But, whatever its cause, it usually deadens the man's personality and wraps his thoughts in so many layers of words that no one else can be bothered unwrapping them to look at the ideas.

"Simplest solution is to try to talk naturally. Next best is to study written explanations that you find easy to understand yourself. And if you need a guide to writing simple language, consult 'The Art of Plain Talk', by Rudolph Flesch (Harper).

"9. Don't forget that there are other ways than formal presentations to put over an idea.

"Many tricks in hammering home an idea fall outside the meeting techniques.

"Without making a speech or sending out a memo, for example, the late Albert Browning, vice-president in charge of purchases, Ford Motor Co., used to get across the idea that his biggest interest was in saving millions by saving pennies.

"On his desk and elsewhere in his office, he had mounted before-and-after displays showing minor changes in car parts, and listing the savings in cents per car and thousands of dollars a year. Subordinates visiting his office needed no lectures to understand what he was most interested in.

"At another firm, where moss grown policies held a special place in the heart of the top man because they were old, a young engineer tried without success to sell a new process which he thought was necessary to keep the company going, once competition revived. He won his point only after he had given up trying to make it in his own company. He published his idea in a technical journal, and the company had so many inquiries about it that his own management suddenly realized it must be a whizzer.

"In a similar situation, a junior executive abandoned a frontal attack when he saw it was getting nowhere and, instead, simply sold his idea to a variety of other junior executives, pointing out to each how it would solve that man's particular problems. When enough of these junior executives had brought the same idea up, top management finally became interested through sheer quantity of suggestions.

"All three examples illustrate indirect methods of putting over an idea.

"10. With all your efforts to sell your idea, don't permit yourself to seem to be 'manipulating' your listeners.

"Sincerity, accord between your proposals and company interest, a good reputation for candour and straight-shooting in the past, are the best safeguard against this appearance.

"All 10 points add up to prove a comment on presentations by Thomas Nelson, president of Executive Training, Inc., New York:

" 'Too many men think that the logic of their argument or the infallibility of their data is sufficient to establish their point.

" 'It seldom is.' "

The second factor for the maintenance of successful industrial communications is keeping the lines of communications open. This implies freedom of contact; the possibility of contacting any other person in the company when this is necessary without restrictions or limitations. By this we do not mean that the worker is going to talk to the president of the company every day. Such contact is not necessary. But if for some reason the worker, through proper lines of communication, wished to talk to the president it should be possible for him to do so.

When you pick up your telephone to make a call you know that no one is going to interrupt your dialling because they have decided you should not talk to the person you are calling. The only things that will prevent your reaching that person are equipment failures or a busy signal because that person is engaged at the moment. Of course, if you are a responsible person, you use judgement in making the call. You do not just call someone to prove to yourself that the system works. Rather you make a call only when you consider it important enough to justify your time and that of the person called.

Yet in our companies we sometimes find that some intermediate person who is part of the "line of communications" will decide that your "call" should not go through or that what you have to say should be arbitrarily changed or restricted to suit his ideas or views. When this happens your communication system fails and it is far more serious than a mechanical failure in the telephone office because that will be reported and repaired whereas this human "line block" – this censor – may continue to practice his interference and control without anything being done about it. It is the responsibility of intermediate supervisory level to analyze ideas or suggestions from lower levels and assure themselves of their soundness before passing them along. But this is far different than arbitrary censorship.

In many cases the subordinates who are affected by censorship may be afraid to say anything, or because their efforts seem to get nowhere they may become discouraged and give up trying. Frequently, too, the censor's superiors may not know anything is wrong because the reports they receive do not indicate any failure of communications.

Often the superior is the one who is at fault because he, by his attitude or actions, has clearly shown his subordinates that he does not want to be bothered, or that there are some things he does not want to hear or know about. And when feudalism, or dictatorial rule prevails, the subordinates soon learn to tell the "boss" only the things this boss wants to hear.

Another frequent occurrence is the decision by a subordinate to use his own judgement in the carrying out of instructions or orders. For some reason he may feel that what his superior has decided is incorrect or does not fit the conditions of the moment. So, without saying anything, he passes on to his subordinates only what he considers proper. Here again is censorship that destroys the effectiveness of communications.

We could spend a lot of time analyzing why these things happen and are sure every one has had experience paralleling the things we have mentioned. However, we are interested, primarily, in what each of us, what every employee of the company from the president down, can do to improve operations through good industrial communications.

When some individual in the lines of communication is acting as a censor, all we can say is that his superior is apt to be more at fault than the man. And two things are up to this superior; are his responsibilities. First, he must examine himself to be sure that he understands and follows good leadership and teamwork practices - that he is not himself the real cause of the system failing. Second, he must learn how to properly check and verify what is going on at subordinate levels through personal contact and observation. He can never do this by sitting at his desk, isolated from his people, and depending entirely on reports or information furnished him by his subordinates.

Beyond this individual or personal evaluation which every management employee must make of and for himself, the policies, practices, methods and controls which have formed the foundation for this management training can serve as a guide in the establishment of the system. Whether, and how well the system functions is a matter of how good our human relationships are.

Conclusion

When a Japanese farmer plants his wheat he arranges the field so that there is symmetry and organization. Every row has a definite relationship to every other row and to the field. But he does not merely go out and plant the wheat among the rice stubble in mud and water. He knows that if he did this the grain would not grow – there could be no harvest.

Before he plants his wheat he must prepare the ground. He must provide for draining away the excess water and cultivate the ground so the seed will take root and grow. He must get rid of the rice stubble and weeds. But when he begins preparing the ground he has a plan in mind. As he prepares it, the rows where the wheat will be planted take shape.

Then when he plants the wheat it grows in accordance with his plans, because he has done two things. First, he has prepared the ground to receive the seed and provide the food for growth. Second, he has made all his preparations according to a plan so that the results will be what he wants.

In this course on industrial management, you have been given the fundamentals for planning, and the things that you need to assure your crop or harvest as industrial managers. But, like the farmer, you must first prepare the ground so your crop will grow. Your ground is the people who make up the company. You, as executives, your subordinates, and the workers, must be prepared to receive the ideas and plans, and each must contribute to the taking root and growing of the crop. It is up to you to be sure that you prepare yourselves and your people by study, analysis, training, example and the application of sound principles so that you can be assured of the final harvest of improved quality and lower costs.