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### *System and Order*

SYSTEM, PLANNING AND ORDERLINESS are not different words for the same thing, but they fit very well together as a guide to more efficient business and personal life. A plan may consist of static blue-prints; a system deals with living human beings and inevitable change. Order is arrangement; system is movement.

System is the product of intelligence. A person framing a system for his firm, his household or himself is thinking things through. He is using his head to save steps and work and money.

System and order are not ends in themselves but means toward carrying out plans. System gets all departments and workers pulling in the same direction, and it is the result of the pull that counts.

System is not a matter of picayune niceties but of programmed actions leading to desired ends. Methods and techniques are secondary in importance to the aims for which the system is devised. The system provides a sense of direction, poise and preparedness.

One of Aesop's fables tells about the boar that stood whetting his tusks against a tree. A fox happened to pass by, and asked him what he meant by such warlike preparation, there being no enemy in sight. "That may be," answered the boar, "but when the enemy is in sight it is time to think about something else."

#### *The need for system*

It is not unusual to come upon people who brush aside matters pertaining to system and organization so that they may deal with what they consider more "practical" problems. But there can be nothing more practical than to get workers to co-ordinate their efforts in carrying on the factory or office operations.

All business implies things to be done, and anything can be done better by system than by haphazard. Much of the expensive waste in industry and homes is due to ineffective planning and lack of system. These lead to inefficient use of materials, equipment, time and labour. They disregard the fact that elimination of loss is as necessary to successful business as the making of profit.

Some people think that everything will come out all right if only they work harder. That is not always the

solution: they need to work more effectively. They need to organize their jobs into straight-line operations, applying system instead of sweat. Improving work habits is part of improving system and system is part of improving work methods.

System in work represents an economy of energy. It helps us to avoid getting into those rush periods that are so wearing on the nerves and contribute so greatly to unsatisfactory results. It helps to develop skill. It increases productivity. It relieves tedium and takes the feeling of drudgery out of work because it releases time that can be devoted to many pursuits.

The principles of system are illustrated by two widely-separated writers: J. M. Scott in his account of an expedition to Labrador, called *The Land that God Gave Cain*, and Dr. Paul H. Nystrom, Professor of Marketing, Columbia University, in *Marketing Handbook*.

There are three systems of harnessing sledge dogs in Canada's northland, Mr. Scott tells us: in pairs on a single trace, in single file, or spread out in the shape of a fan. The fan system is the safest way on thin ice, because there is little danger of all the dogs going through at the same time. But the weight of several different traces is a telling feature against the fan; the dogs get their traces twisted up, so that it may be necessary to stop travelling every hour or so to unwind them; the dogs at the sides of the fan are not getting a direct pull on the sledge, and thus a great deal of energy is being wasted.

As if following up this illustration, Dr. Nystrom writes: "A system in business is a harness within which men work. A tangled harness reduces teamwork, results in people working at cross-purposes, and produces friction and wasted efforts."

#### *Conditions change*

Many business men are feeling their way through the perplexities of changing to electronic data processing, just as their great-grandfathers did with the typewriter, and their grandfathers with the telephone, and their fathers with electric book-keeping and billing machines.

The rapidly advancing computer technology demands not only specialized knowledge but the application of system in its use. Textbooks on business administration and salesmanship have sections devoted to the need for systematic work.

The need of system being acknowledged, the next thing is to get it operating. In this complex area it is well to seek special knowledge and advice. To meet this need there has been called forth a new management science: Systems Engineering. Well known among the increasing literature is *Systemation Letter*, copyrighted by Leslie H. Matthies and published by Systemation Inc., Colorado Springs.

Discussing the development of system in an office or shop, one of these *Letters* says concisely: "A system is a plan for getting work done, under control, by using data."

### Making a system

One does not just sit down with a big sheet of paper and lay out a system. One must know what the system is for and what the problems are. One needs background knowledge.

Take a look at the existing mode of working. Write down in a reasonably detailed way what you observe of every part of it. The mere act of recording the why, what, where, when, who and how of an operation will provide a foundation upon which to build ideas of how the work can be done in an improved manner.

Knowledge is needed of the standard being aimed at. It is an elementary fact, often disregarded, that nothing is good or bad except by reference to a standard held in one's mind. The more comparisons we are able to make between various ways of doing things, the better qualified we are to judge the worth of a proposed system.

The organization of a system is not an occasion for a soirée of yes-men. Making a system requires thought, analysis and deliberation. The elements in a system cannot be paraded before one like the procession of targets in a shooting gallery where one has only a second to load and aim and fire. A sense of discrimination is needed. One does not take just any draft of a system, but chooses from many the one that fits the situation.

This, of course, requires conceptual skill. A man has to be able to see the state of affairs as a whole and to recognize its requirements. He must be sure that the problem being tackled is the real problem: an improper assessment at this point may throw the whole effort off the track.

A good system is as simple as possible, commensurate with accomplishing what it is supposed to do; it should be related to the resources you have; and it must not leave out any vital feature. When an international airplane meet was held in the early days of flying, the United States hosts set up a faultless system by which to time the flights to the hundredth

part of a second, but they had no airplane ready to enter the competition.

Some difficulty is likely to be met with in changing an existing way of doing things. An established system has a tendency to go on running by its own momentum, yet the longer a system has been operating the more need there is to look at it critically. The pattern imposed upon life in the days before electricity and central heating — go to bed at sundown and stay there until dawn — took many years to change.

A reasonable question to start with is "What is wrong with the way we do things now?" Look for the trouble spot: it may not be necessary to reconstruct the whole system, but just to cure the sick part.

Comparison is one way of judging. Compare your system with the best you know, not only for its productive qualities but for its harmony of operation, just as you judge a piece of writing by what it says and the way in which it says it.

Installing a system is not a matter only of paperwork, statistics and technical skill. It requires conviction about the need, faith in the efficacy of the change, imagination to foresee all the results, and realistic thinking about the cost and profit.

Conviction, faith, foresight and sound judgment depend for their attainment upon having the answers to many questions. One of the first things to do in devising a system is to ask questions of yourself and others and give consideration to the answers. Executives and planners are no more obliged than anyone else to accept advice they dislike, but they are digging their own graves if they refuse to listen to it.

Norman F. Washburne gives some suggestions in an article in *The Nation's Business*, published by the Chamber of Commerce of the United States: Listening is important for three reasons: no one knows the problems of the job and the implications of change as well as the man who has been doing the work; only by listening can the supervisor detect a possible trouble spot before it develops; the workers like to feel that the supervisor takes an interest in their viewpoints.

One should try to make the change to the new system smooth and frictionless. Consider the implications of the change with respect to the customs, dignity and status of those who will be affected by it.

### Planning

Some people shy away from planning because they fear that having a plan would make them slaves to it. On the contrary, a plan gives one a firm base from which to push out in freedom from worry. Planning means organizing resources of material, time and manpower: system is putting these into action in the best way to effect your purpose.

When you have an idea to develop, here is a good way to go about it. Get the basic data down in writing. Listen to what other people say about the situation and the proposed change. Seize upon suggestions.

Combine ideas that are similar. Dispose of divergent ideas by modifying them to improve your proposed changes or by washing them out as being unfit for use. Clarify everything that might be misunderstood or misleading. Remove all irrelevant points and language. Sum up step by step. Set priorities for implementation of the change. Ask: is this the logical, effective and economic way to do this operation under the circumstances?

When you really know what you are trying to accomplish it is relatively easy to lay plans, but the best laid plans will falter and fail if there is not system and order in carrying them out.

The Work Simplification Conferences at Lake Placid, N.Y., whose Founder and Director is Allan H. Mogensen, offer some helps toward planning. They present a work simplification pattern: 1. Select a job to improve; 2. Get the facts — make a process chart; 3. Challenge every detail — list the possibilities; 4. Develop the preferred method; 5. Install the improvements; check results.

The installation of a new system should be accompanied by written instructions. These acquaint everyone who is affected with the general picture and also tell everyone what he is expected to do.

A system must not leave out of account the important element of worker acceptance. By putting the system on paper, spelling it out, you give those who are involved in the system all that they should know so as to become enthusiastic about making it work.

Writing out a system may be compared to writing a play. Certain things are to be done by certain actors. In addition to supplying words, the material with which the actors work, one has to give stage directions. These, when addressed to factory or office workers, are contained in action words: prepare, send, show, obtain, record, provide, check, receive and forward. Unless the system is made plain the worker is like the bridge player who told his partner petulantly: "I can't stick to Culbertson when I don't know what astronomical system, if any, you are using."

Systems and orderliness should not be allowed to organize themselves into a tyranny. The temptation which obsesses some organizers is to over-organize, and that leads to the strangulation of enterprise. Harrington Emerson drew a parallel from Darwin. He said in a book called *The Twelve Principles of Efficiency*, published sixty years ago but still relevant in many of its propositions, that just as the maternal instinct makes a mother exaggerate the importance of her offspring, thus adding to its chances of survival, so the man giving birth to a new system believes that there has never been anything quite so good, and he fights for its life.

#### *At the point of action*

A system needs competent people to run it. The supervisor, manager, foreman, or whatever his title may be, is the key figure in making a system work.

To succeed, he may have to be born again, free from old habits of custom and action, adopting what is of value in this new life and making himself at home with new lines of thought.

Labour-saving management is as important as labour-saving machinery. The backbone of saving is system in the use of manpower, materials, money and time.

One cannot get the maximum performance out of workers unless they are organized. Having system and order enables a manager to separate the producers from the drones. He allocates jobs according to the competency of workers. He makes use of the best available and most economical, not using a man with a divining rod if a trained geologist is available, or a skilled craftsman to do a trivial job.

Systems should have boundaries. Everyone knows that system is designed to avoid chaos. Now the question is: how much system is needed to achieve this, and how much chaos will be acceptable in order to avoid an objectionable regimentation? The introduction of system does not mean becoming inhuman. We want order, but order with tolerances, order without minute precision, order within which there is scope.

People must be reckoned with. Every firm is made up of free men and women, and they are more difficult to plan for than are slaves. They want to put the stamp of their own spirit upon their work. They are entitled to freedom within the system, to move within an orbit as wide as possible, but no wider than what is compatible with the preservation of the overall order and system.

It is true that rules must be made and enforced. You cannot play chess unless you are prepared to admit the rigidity of the squares on the board and the rules for moving from one square to another. The systems manual of one firm said: "The object of these rules is not to abridge the rights of anyone, but to point out the plan which we believe to be the wise one to follow."

System demands for its success that the proper tools be provided. As an illustration, consider the battle of Isandula, fought in 1879. Two British regiments were totally destroyed, partly because there were no screwdrivers at hand to open the ammunition boxes.

#### *Orderliness*

Systems are not designed just to provide impressive wall charts with arrows leading the eye from one neat rectangle to another. Systems are for organizing activities and carrying them out in an orderly way.

The principle of order is the basis of good business. Untidiness is inefficient, whether it be in workshop, office, or one's mind.

A person gets a great deal more pleasure and satisfaction from working in a place where order exists. That is a statement it is easy to brush off, and many people do so to their later sorrow, but it is a

statement that should be put to the test by everyone. Once one gets the habit of orderliness it is much easier to be orderly than disorderly.

Orderliness in a working place makes it easier to resolve problems and perform operations, whereas disorder in his surroundings hampers a worker as to speed and accuracy. The habit of putting tools back in their places is part of orderliness. The carpenter and the machinist can reach for a tool without stopping work. So can the orderly manager take up his pen or rubber stamp or a paper clip. So can the orderly housewife at her baking counter pick up without waste energy a roller, a measuring spoon or the salt shaker.

Classification is part of orderliness. It is a logical process which consists in keeping together those things which belong together. It avoids confusion, frees the mind from the frustration of not finding tools when they are needed, and eliminates the cause of many irritations. Making oneself into an orderly person is interesting, because it demands ingenuity, a quality all of us like to display.

### Personal system

Having a system helps to keep one's thinking straight and free from entanglements. It separates the essential from the trivial. It was followed by Napoleon, who said he arranged things in his head "as in a wardrobe." He wrote: "When I wish to put any matter out of my mind, I close its drawer and open the drawer belonging to another. The contents of the drawers never get mixed, and they never worry me or weary me."

An intelligent ordering of life will improve the quality of a man's experience and reduce the number of his failures and disappointments. System contributes to, but does not cause or control, the imaginative thoughts that give rise to creative work. The advantages of opportunity and "getting the breaks" go to the man who has organized himself so as to be ready to seize them. He is, thereby, participating fully in the process of living. He obtains a feeling of personal significance, he feels qualified to do great things, he has learned a lesson which will enable him to control the efforts of other men.

Time is a part of system that should not be squandered. Some fall into the habit of putting around a little job, perhaps as an excuse for not tackling a job that worries them but does not appeal to them.

Procrastination, that bane of human life, does not become an affliction to the person of system. His jobs are broken down into small, easily-handled units, so that they are not so burdensome as to invite him to put them off.

Mr. Crombie, the hero of Edward Streeter's novel *Chairman of the Bored* thought upon his retirement that he had all eternity in which to get done the things he wanted to do, but after a short time he admitted: "That won't be long enough if we don't get some order into our lives."

Having a systematic life means leaving few blank spaces in the day, but the schedules we make must fit our own personal cases. Emerson contrasts tame geese in rural Germany waddling along the road to market and wild geese flying from Alaska to the tropics. It would be ridiculous to set the same time-distance schedule because they are both flocks of geese.

### Use foresight; keep track

There are two further factors to be worked into systematization: foresight and keeping track.

It is sometimes necessary to deny our natural drive to get on with the job so that we may look ahead. A hint may be taken from the navy. The officers of the ships seeking the *Bismarck* after her breakout to the Atlantic Ocean drew pencil arcs on their charts showing the "farthest on" possible position of the ship they sought, taking account of what courses she might steer and her speed. System and order put us in much better position to predict probable events than if we proceed in a happy-go-lucky way.

Foresight enables us to tackle jobs in a business-like manner without delay. A reporter, returning to his office after covering a story, is already planning his "lead" — the summary of what he has seen and heard. In the same way, Field Marshal Montgomery tells us, "During the journey I pondered over the problems which lay ahead and reached some idea, at least in outline, of how I would set about the business."

### How well does it work?

One must measure and reassess a system continuously. Is it doing what it was set up to do? Is it meshing with other systems in the business? Is its cost commensurate with its benefits?

The attractive look of a new system is its most superficial quality. The point of judgment is: how well does it work?

On the other hand, the beginning of a system may appear ragged and unkempt, but so is the larva which develops into the bright-coloured Monarch butterfly.

Give the system a fair but critical chance. It should not be judged until it has been tried out. If it is a good one it will free you to face problems of both tactics and strategy in other areas. The former is the handling of the present situation: the latter is anticipating and planning for future developments.

Expect the system to work. This is faith based upon intelligent forethought and accurate planning. It does not go so far as to believe that a system is a patent medicine guaranteed to work miracles, although the end result may appear to be miraculous.

Even the best devised systems will get bogged down sometimes, but if it were not for system we should be in the mud all the time. When plans go a-gley and what we hoped for does not happen, the thing to do is to make new plans and revise the system.