

The Management of  
Innovation

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stress which calls forth a second hypothesis of a somewhat more general character. The organism has an appropriate behaviour-pattern grounded in this second hypothesis.'<sup>78</sup> (p. 75).

The notion of 'continuous expectations' which Meredith regards as a 'basic characteristic of living organisms' is more familiar sociologically as the perpetual call for action put upon the individual.\* Faced with these demands for action, involving decisions, the individual is constantly re-creating for himself operational representations of the situations through which he moves. 'Living is a moment-to-moment affair, and the translation of' (others' and our own) 'conduct and events into non-temporal patterns provides us with a kind of chart for the guidance of next action; at any one moment, that is, we need to be concerned simultaneously and systematically with the events, persons, and other objects we believe relevant to our own conduct at that moment.'<sup>80</sup>

Guides for action, epistemic moduli, or institutions are not wholly private to the individual. They are, as Parsons has pointed out in another connexion, functions of interaction between persons. As such, their existence depends on a pre-existing '*common culture*—that is, a commonly shared system of symbols the meanings of which are understood on both sides with an approximation to agreement'.<sup>81</sup> Non-verbal conduct, as well as objects and language, is involved in such symbol systems.

The sets of patterns of considerations taken into account in decision-making may therefore be regarded as aspects either of the individual person (biographically determined) or of the social context in which a decision is made. Neither will yield, by itself, a comprehensive statement about the framework of belief in which a decision is made. But in working organizations decisions are made either in the presence of others or with the knowledge that they will have to be implemented, or understood, or approved by others. The set of considerations called into relevance on any decision-making occasion has therefore to be one shared with others or acceptable to them.

Our own studies suggest that there are industrial concerns for which non-programmed decision-making is a normal function; indeed, that this kind of activity takes up most management time, and is its most

\* W. G. Henry in his comment on Meredith's paper suggests that the external situation of the individual is constantly and inherently stressful.<sup>79</sup>

important function. Such firms, in so far as they are successful, have either spontaneously or deliberately worked out a kind of management system which will facilitate non-programmed decision-making. In exploiting human resources in this new direction, such concerns have to rely on the development of a 'common culture', of a dependably constant system of shared beliefs about the common interests of the working community and about the standards and criteria used in it to judge achievement, individual contributions, expertise, and other matters by which a person or a combination of people are evaluated. A system of shared beliefs of this kind is expressed and visible in a code of conduct, a way of dealing with other people. This code of conduct is, in fact, the first sign to the outsider of the presence of a management system appropriate to changing conditions.

## MECHANISTIC AND ORGANIC SYSTEMS

We are now at the point at which we may set down the outline of the two management systems which represent for us (see Chap. 5) the two polar extremities of the forms which such systems can take when they are adapted to a specific rate of technical and commercial change. The case we have tried to establish from the literature, as from our research experience exhibited in the last chapter, is that the different forms assumed by a working organization do exist objectively and are not merely interpretations offered by observers of different schools.

Both types represent a 'rational' form of organization, in that they may both, in our experience, be explicitly and deliberately created and maintained to exploit the human resources of a concern in the most efficient manner feasible in the circumstances of the concern. Not surprisingly, however, each exhibits characteristics which have been hitherto associated with different kinds of interpretation. For it is our contention that empirical findings have usually been classified according to sociological ideology rather than according to the functional specificity of the working organization to its task and the conditions confronting it.

We have tried to argue that these are two formally contrasted forms of management system. These we shall call the mechanistic and organic forms.

A *mechanistic* management system is appropriate to stable conditions. It is characterized by:

(a) the specialized differentiation of functional tasks into which the problems and tasks facing the concern as a whole are broken down;

(b) the abstract nature of each individual task, which is pursued with techniques and purposes more or less distinct from those of the concern as a whole; i.e., the functionaries tend to pursue the technical improvement of means, rather than the accomplishment of the ends of the concern;

(c) the reconciliation, for each level in the hierarchy, of these distinct performances by the immediate superiors, who are also, in turn, responsible for seeing that each is relevant in his own special part of the main task.

(d) the precise definition of rights and obligations and technical methods attached to each functional role;

(e) the translation of rights and obligations and methods into the responsibilities of a functional position;

(f) hierarchic structure of control, authority and communication;

(g) a reinforcement of the hierarchic structure by the location of knowledge of actualities exclusively at the top of the hierarchy, where the final reconciliation of distinct tasks and assessment of relevance is made.\*

(h) a tendency for interaction between members of the concern to be vertical, i.e., between superior and subordinate;

(i) a tendency for operations and working behaviour to be governed by the instructions and decisions issued by superiors;

(j) insistence on loyalty to the concern and obedience to superiors as a condition of membership;

(k) a greater importance and prestige attaching to internal (local) than to general (cosmopolitan) knowledge, experience, and skill.

\* This functional attribute of the head of a concern often takes on a clearly expressive aspect. It is common enough for concerns to instruct all people with whom they deal to address correspondence to the firm (i.e., to its formal head) and for all outgoing letters and orders to be signed by the head of the concern. Similarly, the printed letter heading used by Government departments carries instructions for the replies to be addressed to the Secretary, etc. These instructions are not always taken seriously, either by members of the organization or their correspondents, but in one company this practice was insisted upon and was taken to somewhat unusual lengths; *all* correspondence was delivered to the managing director, who would thereafter distribute excerpts to members of the staff, synthesizing their replies into the letter of reply which he eventually sent. Telephone communication was also controlled by limiting the numbers of extensions, and by monitoring incoming and outgoing calls.

The *organic* form is appropriate to changing conditions, which give rise constantly to fresh problems and unforeseen requirements for action which cannot be broken down or distributed automatically arising from the functional roles defined within a hierarchic structure. It is characterized by:

(a) the contributive nature of special knowledge and experience to the common task of the concern;

(b) the 'realistic' nature of the individual task, which is seen as set by the total situation of the concern;

(c) the adjustment and continual re-definition of individual tasks through interaction with others;

(d) the shedding of 'responsibility' as a limited field of rights, obligations and methods. (Problems may not be posted upwards, downwards or sideways as being someone's else's responsibility);

(e) the spread of commitment to the concern beyond any technical definition;

(f) a network structure of control, authority, and communication. The sanctions which apply to the individual's conduct in his working role derive more from presumed community of interest with the rest of the working organization in the survival and growth of the firm, and less from a contractual relationship between himself and a non-personal corporation, represented for him by an immediate superior;

(g) omniscience no longer imputed to the head of the concern; knowledge about the technical or commercial nature of the here and now task may be located anywhere in the network; this location becoming the *ad hoc* centre of control authority and communication (*cf.* 82);

(h) a lateral rather than a vertical direction of communication through the organization, communication between people of different rank, also, resembling consultation rather than command;

(i) a content of communication which consists of information and advice rather than instructions and decisions;<sup>40</sup>

(j) commitment to the concern's tasks and to the 'technological ethos' of material progress and expansion is more highly valued than loyalty and obedience;

(k) importance and prestige attach to affiliations and expertise

valid in the industrial and technical and commercial milieux external to the firm.

One important corollary to be attached to this account is that while organic systems are not hierarchic in the same sense as are mechanistic, they remain stratified. Positions are differentiated according to seniority—i.e., greater expertise. The lead in joint decisions is frequently taken by seniors, but it is an essential presumption of the organic system that the lead, i.e. 'authority', is taken by whoever shows himself most informed and capable, i.e., the 'best authority'. The location of authority is settled by consensus.

A second observation is that the area of commitment to the concern—the extent to which the individual yields himself as a resource to be used by the working organization—is far more extensive in organic than in mechanistic systems. Commitment, in fact, is expected to approach that of the professional scientist to his work, and frequently does. One further consequence of this is that it becomes far less feasible to distinguish 'informal' from 'formal' organization.

Thirdly, the emptying out of significance from the hierarchic command system, by which co-operation is ensured and which serves to monitor the working organization under a mechanistic system, is countered by the development of shared beliefs about the values and goals of the concern. The growth and accretion of institutionalized values, beliefs, and conduct, in the form of commitments, ideology, and manners, around an image of the concern in its industrial and commercial setting make good the loss of formal structure.

Finally, the two forms of system represent a polarity, not a dichotomy; there are, as we have tried to show, intermediate stages between the extremities empirically known to us. Also, the relation of one form to the other is elastic, so that a concern oscillating between relative stability and relative change may also oscillate between the two forms. A concern may (and frequently does) operate with a management system which includes both types.

The organic form, by departing from the familiar clarity and fixity of the hierarchic structure, is often experienced by the individual manager as an uneasy, embarrassed, or chronically anxious quest for knowledge about what he should be doing, or what is expected of him, and similar apprehensiveness about what others are doing. Indeed, as we shall see later, this kind of response is necessary if the organic form

of organization is to work effectively. Understandably, such anxiety finds expression in resentment when the apparent confusion besetting him is not explained. In these situations, all managers some of the time, and many managers all the time, yearn for more definition and structure.

On the other hand, some managers recognize a rationale of non-definition, a reasoned basis for the practice of those successful firms in which designation of status, function, and line of responsibility and authority has been vague or even avoided.

The desire for more definition is often in effect a wish to have the limits of one's task more neatly defined—to know what and when one doesn't have to bother about as much as to know what one does have to. It follows that the more definition is given, the more omniscient the management must be, so that no functions are left wholly or partly undischarged, no person is overburdened with undelegated responsibility, or left without the authority to do his job properly. To do this, to have all the separate functions attached to individual roles fitting together and comprehensively, to have communication between persons constantly maintained on a level adequate to the needs of each functional role, requires rules or traditions of behaviour proved over a long time and an equally fixed, stable task. The omniscience which may then be credited to the head of the concern is expressed throughout its body through the lines of command, extending in a clear, explicitly titled hierarchy of officers and subordinates.

The whole mechanistic form is instinct with this twofold principle of definition and dependence which acts as the frame within which action is conceived and carried out. It works, unconsciously, almost in the smallest minutiae of daily activity. 'How late is late?' The answer to this question is not to be found in the rule book, but in the superior. Late is when the boss thinks it is late. Is he the kind of man who thinks 8.00 is the time, and 8.01 is late? Does he think that 8.15 is all right occasionally if it is not a regular thing? Does he think that everyone should be allowed a 5-minutes grace after 8.00 but after that they are late?<sup>83</sup>

Settling questions about how a person's job is to be done in this way is nevertheless simple, direct, and economical of effort. We shall, in a later chapter, examine more fully the nature of the protection and freedom (in other respects than his job) which this affords the individual.

One other feature of mechanistic organization needs emphasis. It is a

necessary condition of its operation that the individual 'works on his own', functionally isolated; he 'knows his job', he is 'responsible for seeing it's done'. He works at a job which is in a sense artificially abstracted from the realities of the situation the concern is dealing with, the accountant 'dealing with the costs side', the works manager 'pushing production', and so on. As this works out in practice, the rest of the organization becomes part of the problem situation the individual has to deal with in order to perform successfully; i.e., difficulties and problems arising from work or information which has been handed over the 'responsibility barrier' between two jobs or departments are regarded as 'really' the responsibility of the person from whom they were received. As a design engineer put in, 'When you get designers handing over designs completely to production, it's "their responsibility" now. And you get tennis games played with the responsibility for anything that goes wrong. What happens is that you're constantly getting unsuspected faults arising from characteristics which you didn't think important in the design. If you get to hear of these through a sales person, or a production person, or somebody to whom the design was handed over to in the dim past, then, instead of being a design problem, it's an annoyance caused by that particular person, who can't do his own job—because you'd thought you were finished with that one, and you're on to something else now.'

When the assumptions of the form of organization make for preoccupation with specialized tasks, the chances of career success, or of greater influence, depend rather on the relative importance which may be attached to each special function by the superior whose task it is to reconcile and control a number of them. And, indeed, to press the claims of one's job or department for a bigger share of the firm's resources is in many cases regarded as a mark of initiative, of effectiveness, and even of 'loyalty to the firm's interests'. The state of affairs thus engendered squares with the role of the superior, the man who can see the wood instead of just the trees, and gives it the reinforcement of the aloof detachment belonging to a court of appeal. The ordinary relationship prevailing between individual managers 'in charge of' different functions is one of rivalry, a rivalry which may be rendered innocuous to the persons involved by personal friendship or the norms of sociability, but which turns discussion about the situations which constitute the real problems of the concern—how to make products more cheaply, how to sell more, how to allocate resources, whether to

curtail activity in one sector, whether to risk expansion in another, and so on—into an arena of conflicting interests.

The distinctive feature of the second, organic system is the pervasiveness of the working organization as an institution. In concrete terms, this makes itself felt in a preparedness to combine with others in serving the general aims of the concern. Proportionately to the rate and extent of change, the less can the omniscience appropriate to command organizations be ascribed to the head of the organization; for executives, and even operatives, in a changing firm it is always theirs to reason why. Furthermore, the less definition can be given to status, roles, and modes of communication, the more do the activities of each member of the organization become determined by the real tasks of the firm as he sees them than by instruction and routine. The individual's job ceases to be self-contained; the only way in which 'his' job can be done is by his participating continually with others in the solution of problems which are real to the firm, and put in a language of requirements and activities meaningful to them all. Such methods of working put much heavier demands on the individual. The ways in which these demands are met, or countered, will be enumerated and discussed in Part Three.

We have endeavoured to stress the appropriateness of each system to its own specific set of conditions. Equally, we desire to avoid the suggestion that either system is superior under all circumstances to the other. In particular, nothing in our experience justifies the assumption that mechanistic systems should be superseded by organic in conditions of stability.\* The beginning of administrative wisdom is the awareness that there is no one optimum type of management system.

\* A recent instance of this assumption is contained in H. A. Shepard's paper addressed to the Symposium on the Direction of Research Establishments, 1956. 'There is much evidence to suggest that the optimal use of human resources in industrial organizations requires a different set of conditions, assumptions, and skills from those traditionally present in industry. Over the past twenty-five years, some new orientations have emerged from organizational experiments, observations and inventions. The new orientations depart radically from doctrines associated with "Scientific Management" and traditional bureaucratic patterns.

The central emphases in this development are as follows:

1. Wide participation in decision-making, rather than centralized decision-making.
2. The face-to-face group, rather than the individual, as the basic unit of organization.
3. Mutual confidence, rather than authority, as the integrative force in organization.
4. The supervisor as the agent for maintaining intragroup and intergroup communication, rather than as the agent of higher authority.
5. Growth of members of the organization to greater responsibility, rather than external control of the member's performance or their tasks.<sup>84</sup>

There is, the managing director of one concern remarked, an inverse ratio between the intensity of internal conflict and the seriousness of the problems and tasks facing the organization. This, he said, had been amply demonstrated nationally during the war; it was true also of ordinary families in the emergencies caused by illness and other threats. But 'serious' problems are those which 'force' themselves on the awareness of those whom they affect. He was convinced that one of the most important jobs of management was constantly to inform the members of the concern of the situation confronting them as a community—of the circumstances of the market, of technical developments, of conditions in industry at large, of competitive pressures, of elements in national and international trading conditions, and of the changes in them.

This book has, in fact, dealt with an array of internal manifestations of the external tasks and problems, and of changes in their disposition, which affect the existence of the concern as a whole. There is an obligation on management not only to interpret the external situation to the members of the concern, but to present the internal problems for what they truly are: the outcome of the stresses and changes in that situation—in markets, technical requirements, the structure of society itself.

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