

1 The Structure of Organizations

The decisive reason for the advance of bureaucratic organization has always been its purely technical superiority over any other form of organization.

MAX WEBER

It would be entirely premature, then, to assume that bureaucracies maintain themselves solely because of their efficiency.

ALVIN W. GOULDNER

It may not be impossible to run an effective organization of 5000 employees non-bureaucratically but it would be so difficult that no one tries.

THE ASTON GROUP

The danger lies in the tendency to teach the principles of administration as though they were scientific laws, when they are really little more than administrative expedients found to work well in certain circumstances but never tested in any systematic way.

JOAN WOODWARD

The managers are mainly conduits of causation, adding little independently in the causal sense, since the structural outcome has already been shaped by the contingencies.

LEX DONALDSON

The organization and control of bureaucracy can be designed so as to ensure that the consequential effects on behaviour are in accord with the needs of an open democratic society, and can serve to strengthen such a society.

ELLIOTT JAKUES

The visible hand of managerial direction has replaced the invisible hand of market mechanisms in coordinating flows and allocating resources in major modern industries.

ALFRED D. CHANDLER

Transaction cost economizing is, we submit, the driving force that is responsible for the main institutional changes [in corporations].

OLIVER E. WILLIAMSON

Adhocracy [the innovative configuration] is the structure of our age.

HENRY MINTZBERG

Increasingly your corporations will come to resemble universities or colleges.

CHARLES HANDY

The task [of the transnational organization] is not to build a sophisticated matrix structure, but to create a 'matrix in the minds of managers'.

CHRISTOPHER BARTLETT AND SUMANTRA GHOSHAL

Where modernist organization is rigid, postmodern organization is flexible.

STEWART CLEGG

All organizations have to make provision for continuing activities directed towards the achievement of given aims. Regularities in activities such as task allocation, supervision and coordination are developed. Such regularities constitute the organization's structure and the fact that these activities can be arranged in various ways means that organizations can have differing structures. Indeed, in some respects every organization is unique. But many writers have examined a variety of structures to see if any general principles can be extracted. This variety, moreover, may be related to variations in such factors as the objectives of the organization, its size, ownership, geographical location and technology of manufacture, which produce the characteristic differences in structure of a bank, a hospital, a mass-production factory or a local-government department.

The writers in this section are concerned to identify different forms of organizational structures and to explore their implications. Max Weber presents three different organizational types on the basis of how authority is exercised. He views one of these types – bureaucracy – as the dominant modern form. Alvin W. Gouldner also examines the bureaucratic type and shows that, even in one organization, three variants can be found. Derek Pugh and the Aston Group suggest that it is more realistic to talk in terms of dimensions of structures rather than types. Joan Woodward argues that production technology is the major determinant of the structure of manufacturing firms. Lex Donaldson examines the factors which lead an organization to a particular structure fitting to its needs.

Elliott Jaques examines the psychological nature of the authority relationships in a bureaucratic structure, and Alfred Chandler shows how the management structure flows from the company strategy. Oliver E. Williamson points to the way in which the pressures on the organization to process its information efficiently leads to the type of relationship – market or hierarchical – which is developed. Henry Mintzberg describes a range of types of modern organizations and their effectiveness. Charles Handy identifies some established structures of organization, but suggests that

a distinctively different new form is coming into being. Christopher Bartlett and Sumantra Ghoshal argue that, for multinational firms to be successful in the current global market environment, they must develop an innovative new structure and culture of working. Stewart Clegg looks forward to a new relationship between superiors and subordinates in the 'post-modernist organization'.

All the contributors to this section suggest that an appropriate structure is vital to the efficiency of an organization and must be the subject of careful study in its own right.

Max Weber

Max Weber (1864–1920) was born in Germany. He qualified in law and then became a member of the staff of Berlin University. He remained an academic for the rest of his life, having a primary interest in the broad sweep of the historical development of civilizations through studies of the sociology of religion and the sociology of economic life. In his approach to both of these topics he showed a tremendous range in examining the major world religions such as Judaism, Christianity and Buddhism, and in tracing the pattern of economic development from pre-feudal times. These two interests were combined in his classic studies of the impact of Protestant beliefs on the development of capitalism in Western Europe and the US. Weber had the prodigious output and ponderous style typical of German philosophers, but those of his writings which have been translated into English have established him as a major figure in sociology.

Weber's principal contribution to the study of organizations was his theory of authority structures which led him to characterize organizations in terms of the authority relations within them. This stemmed from a basic concern with why individuals obeyed commands, why people do as they are told. To deal with this problem Weber made a distinction between *power*, the ability to force people to obey, regardless of their resistance, and *authority*, where orders are obeyed voluntarily by those receiving them. Under an authority system, those in the subordinate role see the issuing of directives by those in the superordinate role as legitimate. Weber distinguished between organizational types according to the way in which authority is legitimized. He outlined three pure types which he labelled 'charismatic', 'traditional' and 'rational-legal', each of which is expressed in a particular administrative apparatus or organization. These pure types are distinctions which are useful for analysing organizations, although any real organization may be a combination of them.

The first mode of exercising authority is based on the personal qualities of the leader. Weber used the Greek term 'charisma' to mean any quality of individual personality by virtue of which the leader is set apart from ordinary people and treated as endowed with supernatural, superhuman or at least specifically exceptional powers or qualities. This is the position of the prophet, messiah or political leader, whose organization consists of a set of disciples: the disciples have the job of mediating between the leader and the masses. The typical case of this kind is a small-scale revolutionary movement, either religious or political in form, but many organizations have had charismatic founders, such as Henry Ford or Richard Branson. Because the basis of authority lies in the characteristics of one person

and because commands are based on that person's inspiration, however, this type of organization has a built-in instability. The question of succession always arises when the leader dies and the authority has to be passed on. Typically, in political and religious organizations, the movement splits, with the various disciples claiming to be the 'true' heirs to the charismatic founder. Thus, the process is usually one of fission. The splitting of Islam into Sunni and Shia sects on the death of the founding prophet Mohammed, exemplifies the problem. Even if the leader nominates a successor, that person will not necessarily be accepted. It is unlikely that another charismatic leader will be present, and so the organization must lose its charismatic form, becoming one of the two remaining types. If the succession becomes hereditary, the organization becomes traditional in form; if the succession is determined by rules, a bureaucratic organization develops.

The bases of order and authority in *traditional* organizations are precedent and usage. The rights and expectations of various groups are established in terms of taking what has always happened as sacred; the great arbiter in such a system is custom. Leaders have authority by virtue of the status that they have inherited, the extent of their authority being fixed by custom. When charisma is traditionalized by making its transmission hereditary, it becomes part of the role of the leader rather than being part of the founder's personality. The actual organizational form under a traditional authority system can take one of two patterns. There is the *patrimonial* form where officials are personal servants, dependent on the leader for remuneration. Under the *feudal* form the officials have much more autonomy, with their own sources of income and a traditional relationship of loyalty towards the leader. The feudal system has a material basis of tithes, fiefs and beneficiaries all resting on past usage and a system of customary rights and duties. Although Weber's examples are historical, his insight is equally applicable to modern organizations. Managerial positions are often handed down from one generation to the next as firms establish their own dynasties based on hereditary transmission. Selection and appointment may be based on kinship rather than expertise. Similarly, ways of doing things in many organizations are justified in terms of always having been done that way *as a reason in itself*, rather than on the basis of rational analysis.

The concept of rational analysis leads to Weber's third type of authority system, the rational-legal one, with its bureaucratic organizational form. This Weber sees as the dominant institution of modern society. The system is called rational because the means are expressly designed to achieve certain specific goals (that is, the organization is like a well-designed machine with a certain function to perform, and every part of the machine contributes to the attainment of maximum performance of that function). It is legal because authority is exercised by means of a system of rules and procedures through the office which an individual occupies at a particular time. For such organizations, Weber uses the name 'bureaucracy'. In common usage, bureaucracy is synonymous with inefficiency, an emphasis on red tape, and excessive writing and recording. Specifically, it is identified with inefficient public administrations. But in terms of his own definition, Weber states that a bureaucratic organization is technically the most efficient form of organization possible. 'Precision, speed, unambiguity, knowledge of files, continuity, discretion,

unity, strict subordination, reduction of friction and of material and personal costs – these are raised to the optimum point in the strictly bureaucratic administration.’ Weber himself uses the machine analogy when he says that the bureaucracy is like a modern machine, while other organizational forms are like non-mechanical methods of production.

The reason for the efficiency of the bureaucracy lies in its organizational form. As the means used are those which will best achieve the stated ends, it is unencumbered by the personal whims of the leader or by traditional procedures which are no longer applicable. This is because bureaucracies represent the final stage in depersonalization. In such organizations there is a series of officials, whose roles are circumscribed by written definitions of their authority. These offices are arranged in a hierarchy, each successive step embracing all those beneath it. There is a set of rules and procedures within which every possible contingency is theoretically provided for. There is a ‘bureau’ for the safekeeping of all written records and files, it being an important part of the rationality of the system that information is written down. A clear separation is made between personal and business affairs, bolstered by a contractual method of appointment in terms of technical qualifications for office. In such an organization authority is based in the office and commands are obeyed because the rules state that it is within the competence of a particular office to issue such commands. Also important is the stress on the appointment of experts. One of the signs of a developing bureaucracy is the growth of professional managers and an increase in the number of specialist experts with their own departments.

For Weber this adds up to a highly efficient system of coordination and control. The rationality of the organization shows in its ability to ‘calculate’ the consequences of its action. Because of the hierarchy of authority and the system of rules, control of the actions of individuals in the organization is assured; this is depersonalization. Because of the employment of experts who have their specific areas of responsibility and the use of files, there is an amalgamation of the best available knowledge and a record of past behaviour of the organization. This enables predictions to be made about future events. The organization has rationality: ‘the methodical attainment of a definitely given and practical end by means of an increasingly precise calculation of means’.

This is where the link between Weber’s interest in religion and organizations occurs. Capitalism as an economic system is based on the rational long-term calculation of economic gain. Initially for this to happen, as well as for world markets to expand, a particular moral outlook is needed. Weber saw this as being supplied by the Protestant religion after the Reformation, with its emphasis on this world and the need for individuals to earn their salvation through their industry on earth. Thus, economic activity gradually became labelled as a positive good rather than as a negative evil. Capitalism was launched on its path; this path was cleared most easily through the organizational form of bureaucracy which supplied the apparatus for putting economic rationality into practice. Providing it does so with efficiency and regularity bureaucratic administration is a necessity for any long-term economic calculation. Thus with increasing industrialization,

bureaucracy becomes the dominant method of organizing. So potent is it that it becomes characteristic of other areas of society such as education, government, politics and so on. Finally, the bureaucratic organization becomes typical of all the institutions of modern society.

Most studies of the formal, structural characteristics of organizations over the past five decades have started from the work of Max Weber. His importance lies in having made the first attempt to produce systematic categories for organizational analysis.

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Alvin W. Gouldner

Alvin W. Gouldner (1920–1980) was an American sociologist who held the Max Weber Chair of Social Theory at Washington University, St Louis. He conducted research into social problems for the American Jewish Committee and worked on industrial organization, including consulting for the Standard Oil Company of New Jersey. In the last two decades of his life he was particularly concerned with the development of sociological theory and with the role of knowledge in society.

Gouldner has applied Weber's concept of bureaucracy and its functioning to modern industrial organizations. Weber's analysis was based on the assumption that the members of an organization will in fact comply with the rules and obey orders. He asked on what basis do the rule-promulgators and the order-givers obtain their legitimate authority. He paid no attention to the problem of establishing the legitimacy of authority in the face of opposition and a refusal to consent on the part of the governed. This is a situation frequently met, for example, when a bureaucratic authority attempts to supplant a traditionalistic one, or when the rule of the expert or the rational legal wielder of power is faced with resistance.

On the basis of a very close study of this type of situation in an American gypsum mine, Gouldner has described the effects of the introduction of bureaucratic organization in the face of opposition. The previous management system of the mine was based on 'the indulgency pattern'. The rules were ignored or applied very leniently; the men were only infrequently checked on and were always given a second chance if infringements came to light. There was a very relaxed atmosphere and a favourable attitude of the workers to the company. Into this situation came the new mine manager who set about seeing that the rules were enforced, that the authority structure functioned effectively, and in general that an efficient rational-legal organization was operated. But this also resulted in a great drop in morale and increased management-worker conflict – including a wildcat strike.

In his analysis of this situation Gouldner was able to distinguish three patterns of bureaucratic behaviour: mock, representative and punishment-centred – each with its characteristic values and conflicts.

In *mock bureaucracy* the rules are imposed on the group by some outside agency; for example, a rule laid down by an insurance company forbidding smoking in a shop, or official returns required outside the organization on the activities of members. Neither superiors nor subordinates identify themselves with or participate in the establishment of the rules, nor do they regard them as legitimate. Thus the rules are not enforced, and both superiors and subordinates obtain status by violating them. Smoking is allowed unless an outside inspector is present;

purely formal returns are made, giving no indication of the real state of affairs. The actual position differs very much from the official position and people may spend a lot of time going through the motions. This behaviour pattern of mock bureaucracy corresponds with the common conception of bureaucratic red tape administration which is divorced from reality. However, in such a system, as Gouldner points out, morale may be very high since the informal values and attitudes of all participants are bolstered by the joint violation or evasion of the rules in order to get on with the real job.

In *representative bureaucracy* Gouldner takes up and develops one strand of Weber's concept, the situation in which rules are promulgated by experts whose authority is acceptable to all the members of the organization. Superiors and subordinates support the rules which fit in with their values and confer status on those who conform. For example, pressure may come from both management and workers to develop a safety programme; a high quality of workmanship may be expected and achieved. In this situation rules are enforced by superiors and obeyed by subordinates, perhaps with some tension but with little overt conflict. As the values are held in common by all, deviations are explained by well-intentioned carelessness or ignorance, since it would not be thought possible to dispute the values themselves. The joint support for the rules is buttressed by feelings of solidarity and participation in a joint enterprise. This behaviour pattern of representative bureaucracy corresponds very closely to the ideal forms of organization strongly advocated by such writers as Taylor and Fayol (see Chapter 4) in which authority is based not on position but on accepted knowledge and expertise.

In the third type of bureaucracy, *punishment-centred*, rules arise in response to the pressures of *either* management *or* workers. The attempt is made to coerce the other side into compliance. For example, management may introduce stricter control on production, clocking-in procedures and fines. This type of bureaucracy emphasizes the elements of authority and command-hierarchy in Weber's concept; although as Gouldner points out, there can be a power struggle in which the solidarity of the subordinates imposes rules on the management – for example job demarcation rules, overtime bans or rigid redundancy procedures. Either superiors or subordinates consider the rules legitimate but not both. If conformity leads to a gain in status for one side, this involves a loss in status for the other. Deviation from the rules is not explained away as in representative bureaucracy, but is regarded as wilful disobedience. Such a situation clearly entails much conflict and tension.

The patterns of behaviour characteristic of these three types of bureaucracy may coexist in different degrees in any one organization, and they are perhaps better described as 'modes of bureaucratic functioning'. The punishment-centred mode, which is the most frequently used, is intended to produce an efficient organization working in conformity with rationally designed rules and procedures. It emphasizes the use of general and impersonal rules, which decrease the emphasis on the personal power of those in authority. This in turn leads to a reduction in interpersonal tension which promotes efficiency and reinforces the use of impersonal bureaucratic rules. This is the strength of bureaucracy, as Weber pointed out.

But Gouldner maintains that there are unanticipated consequences of bureaucratic functioning which Weber leaves out of account. General and impersonal rules, by their very nature, define what is *not* allowed and thus increase people's knowledge of what is the minimum acceptable behaviour which tends to become the standard behaviour. This lowers efficiency and, in a punishment-centred bureaucracy, leads to increased closeness of supervision to see that the rules are carried out; consequently there is increased emphasis on authority and greater interpersonal tension. This results in the continued issue of formal impersonal rules to deal with the conflicts, and the cycle then begins again. Thus both the anticipated and unanticipated consequences of bureaucracy lead to a reinforcement of bureaucratic behaviour. The system is essentially unstable, achieving its goals only at the cost of much interpersonal tension and conflict.

Thus rules have both positive and negative effects, anticipated and unanticipated consequences. An overall aim of rules is to overcome the effect of close supervision which makes power differences too visible and thereby may offend norms of equality. So rules serve as an equivalent for direct orders by providing a statement of the obligations of a particular job (their explicational function). However, in certain circumstances the informal group may provide this function, thereby leading to the unanticipated consequence of conflict. Rules also provide an impersonal way of using authority (their screening function). Along with this, rules enable control to take place at a distance (their remote control function). But here again, the distance may get too great, leading to a mock situation of authority. Rules also constitute a definition of expectation, together with sanctions for non-performance (their punishment-legitimizing function). But rules also define minimal standards allowing individuals to work at low levels of commitment (their apathy-preserving function). It is the different possibilities in the operation of rules which provide the dysfunctions of bureaucracy.

Gouldner has also been concerned to distinguish different outlooks among administrators and to show the effects these have upon their attitudes to their jobs, their employing organizations, their professions and their colleagues. This arises from a further criticism of Weber. Gouldner suggests that there is an inherent contradiction in bureaucracy between a system of authority based on the appointment of experts, and authority based on hierarchy and discipline. In the first case authority is legitimized because of superior knowledge; in the second it arises from the office held. This represents a particular incompatibility in those organizations which employ large numbers of professionals who may have more technical knowledge than their hierarchical superiors. Gouldner distinguishes two main categories of administrators: 'cosmopolitans' and 'locals'. Cosmopolitans are administrators with little loyalty to the organization, but high commitment to their specialized skills. They have an extremely professional outlook. They think of themselves primarily as engineers or accountants, for instance. Locals are administrators with great loyalty to the organization, but with little commitment to specialized skills. They think of themselves as 'company people'. Although organizations wish to retain the loyalty of their personnel (and therefore, for example, to promote by seniority from within), they also have a basic rational

orientation towards efficiency (which requires appointment by skill and competence from wherever it is obtainable). This built-in dilemma is another major cause of tension in the modern organization.

Gouldner has contrasted mechanical systems with natural systems such as societies, institutions and organizations. People within natural systems are not just empty shells constrained by the circumstances in which they find themselves; as they operate the system, they have ideas, perceptions and choices to make which shape the organization's structure, often away from the intentions of its designers. For Gouldner social science has the special role in society of offering an explanatory and critical approach to organizations and institutions in order to help in this process and thus proclaim the autonomy of the individual.

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Derek Pugh and the Aston Group, including John Child and David Hickson

In the late 1950s Derek Pugh, now Emeritus Professor of International Management at the Open University Business School, UK, brought to the Birmingham College of Advanced Technology (which became the University of Aston-in-Birmingham) a distinctive view of how to conduct research. His research experience as a social psychologist at the University of Edinburgh had placed him in close contact with researchers in other social sciences. He believed that the scope of empirical investigation and of understanding could be widened by multidisciplinary research, founded on a common commitment to and ownership of results within the research team, and on team management skills.

The Industrial Administration Research Unit at Aston, founded and led by Pugh between 1961 and 1970, included several generations of researchers whose academic origins ranged from psychology, sociology, economics and politics to no specific discipline at all. The names which appear most frequently on publications are John Child, David Hickson, Bob Hinings, Roy Payne, Diana Pheysey and Charles McMillan as the initiator, with David Hickson, of much subsequent international research, but there are many more. It is symptomatic of the nature of the group that it has not taken on the name of any one individual, even that of Derek Pugh, but is usually known as the 'Aston Group', even though there is no longer any special link with that university. The programme of research dispersed with the members of the group, and they and others in touch with them have pursued its work elsewhere in Britain and in several other countries.

The Aston Programme contributed to organization theory by blending some of the research methods and assumptions of psychology with conceptions of organizations and their workings from sociology and economics. Its approach has three essential elements. First, because organizations and their members are changing and complex, numbers of their *attributes should be studied together and as matters of degree*, not as 'either/or' phenomena – a multi-variate approach to a changing world of greys, rather than blacks and whites. This also implies that there will be no single reason for the way in which an organization is set up and run, but many possible influences (that is, multivariate causal explanations). What happens cannot be due to an organization's size alone, nor for that matter to its technology

alone, but must in some degree be due to a number of these and other factors all acting together.

Second, because organizations outlast the comings and goings of individuals, it is *appropriate to study their non-personal or institutional aspects* using information on their divisions of work, their control systems and their formal hierarchies. For this, individuals can be interviewed as informants who describe these aspects, rather than being asked to indicate how they experience the organization personally, which they would be if asked to respond to questionnaires about themselves.

Third, because organizations are working wholes, they and their members *should be seen from more than one perspective* to give the fullest possible view. 'The response to the recurring conundrum "does man make organization or does organization make man?" must be to assume that both are happening all the time.' Therefore, the Aston Programme aimed to link:

- organizational structure and functioning;
- group composition and interaction;
- individual personality and behaviour.

Early ambitions to include features of the surrounding society were not realized initially, but began to be included later, when research extended beyond Britain to organizations in other societies.

The Programme commenced with a project in the Birmingham area in England, from which has grown all further research. It focused on the organizational level by studying a highly diverse sample of 46 organizations: private sector and public sector, from manufacturers of cars and chocolate bars to municipal departments, public services and chain stores. Their formal structures were analysed in terms of their degrees of:

- *specialization* of functions and roles;
- *standardization* of procedures;
- *formalization* of documentation;
- *centralization* of authority;
- *configuration* of role structure.

These concepts reflect prevalent ideas about bureaucratization and how to manage, which can be found in the work of Weber (see earlier in this chapter) and Fayol (in Chapter 4).

A very large number of ways of measuring these aspects of structure were devised, which have been employed variously by many researchers since. The most distinctive kind of measure used, an innovation in research on organizations, was based on demonstrating that, for example, the number of functions (such as finance or public relations) that an organization had specialized out of a set of possible specialisms could validly be added to give it a specialization score, and similarly with standardization, formalization and centralization. This enabled one organization to be compared with another in these terms for the first time.

Despite the range and ramifications of this research, its salient results took on a relatively simple outline. First, the measures of specialization, standardization and formalization were simplified into a combined score for each organization. To distinguish this from its three constituents it was called 'structuring of activities'. An organization with highly structured activities has many specialized sections such as buying, training, work study and so on, and many routine procedures and formal documents, the total effect being that what has to be done is marked out or structured. Second, centralization of decision making and the autonomy of an organization's decision making from any owning organization were together termed 'concentration of authority'. An organization with concentrated authority not only has most of its decisions taken at the top of its own hierarchy but has many decisions taken for it, over its head, by the management of another organization of which it is a wholly or partly owned subsidiary or subordinate section.

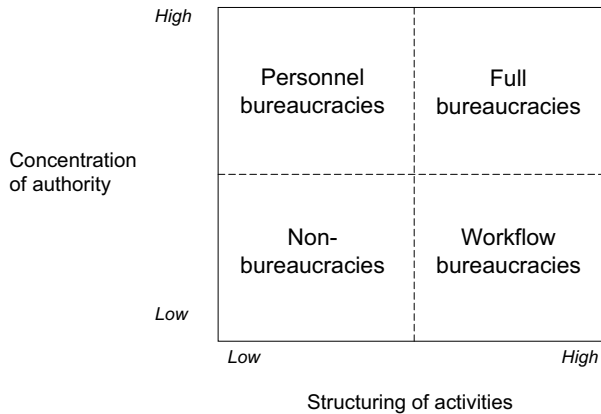
Thus, at its simplest, the Aston Group isolated two primary elements of any organization, how far the activities of its personnel are structured and how far its decision-making authority is concentrated at the top, which between them sum up much of what an organization is like. Know them and you know it, to a large extent, for they are its two fundamentals.

Although the Aston Programme's approach assumes that organizations are what they are for many reasons, these first results were also relatively simple in the principal explanations that they suggested. A series of features of the organizational context, including its purpose, ownership, technology, size and dependence, were examined for any correlation with the extent to which an organization had structured its activities or concentrated its authority. It was found that ownership (whether private or public, dispersed in thousands of shareholdings or in the hands of a family) made little difference to structuring and concentration; as did technology, which was reflected in only a few aspects of structure.

What did and does matter much more for the form taken by an organization is its *size* and its degree of *dependence upon other organizations*. The larger it is, the more likely its employees are to work in very specialized functions, following standardized procedures and formalized documentation; that is, it will score highly on structuring of activities and have many of the appearances of bureaucracy. The more it is dependent upon only a few owning, supplier or customer units, or even just one – total dependence is where an organization is wholly owned by another which supplies all its needs and takes all its outputs – the less autonomy it will have in its own decision making, and even those decisions that are left to it are likely to be centralized within itself rather than decentralized.

Casting its results into an empirically derived taxonomy of forms of organization structure, the Aston Group put forward from its first project a view of the forms prevalent in contemporary industrialized society, in Britain and probably elsewhere too. Large firms and big businesses are typically *workflow bureaucracies*, highly structured but not as highly concentrated in authority as some. Public service organizations of local and central government are *personnel bureaucracies*, not very structured but with highly concentrated authority and procedures focused on the hiring, promoting and firing of personnel. Smaller units within large private or

public groups are full bureaucracies, with the high structuring of the workflow type and the highly concentrated authority of the personnel type. Smaller firms in personal ownership have neither of these features to any great extent, being *non-bureaucracies* (or implicitly structured). There are other types, but these four main ones can be depicted as in the figure below.



The progression of the Aston Group into research on group and role characteristics and on the individual's experience of organizational 'climate', in accordance with their Programme of linking organizational, group and individual levels analysis, is not so well known. Its results are not so clear cut. If any construction can be placed on them overall, it is that they lie from bureaucracy the pall of gloom laid over it by widespread assumptions of its uniformly stifling and dreary nature. It may be like that, but if it is, then it is for those in the lowest-level jobs and not necessarily for those higher in the hierarchy. Life for them differs from one bureaucratic organization to another.

Through a mixture of surveys and of intensive case studies with batteries of methods, Aston researchers showed that, while structuring of activities does tend to be associated with greater formality at the group interaction level, and concentration of authority does tend to be associated with less autonomy for individuals and with greater conventional attention to rules, nevertheless a uniformly bureaucratic-type firm can be effective and its personnel can like working in it. At least, this was so in their case study of a small firm owned by a large international corporation, a 'small effective bureaucracy' which they code-named 'Aston'.

In organizations that showed both high structuring and high concentration of authority, which were loosely equated with bureaucracies, there was no evidence of less attractive climates (in terms of the way in which authority was exercised, of interest in work, of routine and of personal relationships). At the top, such organizations tended to have managers who were younger and better qualified, with more flexible and challenging attitudes. And firms with younger managers

tended to show faster growth in sales and assets (though whether youth caused growth or growth attracted younger personnel is an unanswered question). So those managing more bureaucratic-type firms were unlikely themselves to be cautious and conformist, and were most likely to seek innovation and risk.

Greater confidence is shown in the Aston Programme's achievements at the organizational level of analysis, however. On issues such as the presence or absence of procedures, documents, defined authority and control systems, the Programme demonstrated that significant comparisons can be made between organizations of virtually any kind. (But it must be remembered that the data do not tell how far these means are then used.) The Aston Programme provides concepts and measures of organizational structure that have withstood use and re-use by researchers beyond the original team in a way that rarely happens.

In later work Pugh with Hickson and others went on to investigate national cultural differences and their effect on the processes of management in different countries.

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JOHN CHILD

John Child, now Professor of Commerce at the University of Birmingham, England, joined Pugh at Aston in using the same methods to replicate the results in contrasting industries – stable compared to fast-changing.

Most significantly, he made explicit what had remained implicit in the thinking behind the Aston Programme. He highlighted *strategic choice* by emphasizing that all aspects of organizations were in some sense chosen by their managements; they did not just happen. Size, for example, does not 'cause' specialization just like that. Growth in size enables, or pressures, managers who want to have effective organizations to add more specialist departments so that work can be divided clearly between more people, who thus acquire more specialized expertise. It is the managers who choose what to do. More than that, they choose the growth in size to begin with. They decide to expand output, add a new marketing department, or whatever, and so they increase the numbers of employees. Strategic choice by managers affects both context and structure.

But *one choice constrains another*: each choice (for example of size) constrains the options open for the next (for example of the degree of structuring to be adopted).

A major instance of this is that the choice of how far to develop either of the two primary elements, structuring and concentration, is likely to limit to some extent what can be done with the other, for there is a small negative relationship between them; that is, more of one probably means somewhat less of the other, and to that extent they are alternative means of controlling an organization – not mutually exclusive alternatives (since all organizations use both) but alternative emphases.

Later Child spent some years in China during the transition from Maoist rule. In some of the first ever independent empirical research in that nation's industries, he and Chinese colleagues exposed the problems of devolving a centrally planned system. Decentralization was uneven and only partially effective. Central and local government kept capital investment in their own hands, and formal delegation to managements of decisions on, for instance, purchasing and recruiting meant little if in practice managers had to go to state agencies to find sources of goods and personnel.

Child also studied the operation of US multinational corporations which had established joint ventures in China. He found that, in general, they were prepared to de-centralize certain decisions to their affiliate companies concerning local issues such as choice of suppliers or of markets aimed for. But they retained control of decisions on issues which could have corporate implications such as modifications of the product, and they imposed their standard quality and financial reporting regimes.

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DAVID HICKSON

David Hickson, now Emeritus Professor of International Management at the University of Bradford Management School, England, who was with the Aston Group from the beginning, shared with Pugh a particular responsibility for extending its work beyond Britain. Over the years, Aston-based projects took place in many nations worldwide, including the US and Canada, Western Europe, together with Poland and Sweden, the Middle East and Israel, India, Hong Kong and Japan. Among the differences which have been found are notably high centralization of organizations under state central planning in Poland, high structuring (specialization and formalization) in Japanese companies which have

adopted contemporary Western forms of organization and management, and comparatively less structuring in paternalistic Hong Kong firms.

Hickson with C. R. Hinings (now of the University of Edmonton, Alberta, Canada) and other colleagues put forward a culture-free hypothesis, which originated from a comparison of manufacturing firms in Britain, Canada and the US. As they saw it, this stated the 'boldest' possibility, namely: 'Relationships between the structural characteristics of work organizations and variables of organization context will be stable across societies.' Greater size, for instance, would consistently go with greater specialization and greater formalization, in any country, West or East. Lex Donaldson (see later in this chapter) tested this hypothesis using the published results of studies in 13 countries across the world and found that it was supported. There were indeed stable relationships, especially with size of organizations. Everywhere bigger organizations are not only likely to be more structured, but also less centralized (the latter relationship may be weaker in the East). In other words, once jobs and procedures are set up, top managers can delegate more because people know what they should do, and simultaneously they ask to be allowed to do it. This finding suggests, not that all organizations are the same, but that managers in all nations have similar constraints upon their choices, which show up as a repeated pattern of relationships between size, and dependence, and structural features.

Again with Hinings, and with other colleagues in the Faculty of Business at the University of Alberta, Canada, Hickson went on to examine which managers most influence these choices, and why. They proposed a *strategic contingencies theory of intraorganizational power*, building up the ideas of Crozier (Chapter 5), and verified it by studying departmental influence in firms in Canada and the US. The theory gives three reasons why some departmental managers are powerful and others weak. These are how far they *cope with uncertainty*, are *centrally situated* and are *not substitutable*. If their department can cope with uncertainty, then the rest of the organization can function with fewer difficulties, as when a marketing department evens out erratic fluctuations in customer demands by astute advertising, so that production can be more stable year-round. If their department is central to the flows of work around the organization, then more of the others who feed work to it and wait upon its work are dependent upon it, as when a finance department receives estimates and allocates budgets. If this department cannot be substituted for, since no one else in the organization nor any external agency can do what it does, then it holds a monopoly-like position. Should there be an alternative, as when some of the work of a purchasing department could be contracted out to a buying agent, that position is fragile.

Departmental managers whose personnel is strong in all three respects have an overall *control of strategic contingencies* within their organization that gives them more influence over decisions than anyone else has, even over decisions outside their departmental concerns. Pfeffer and Salancik (see Chapter 2) used this same idea in their theory about an organization's external relationships.

Hickson, together with colleagues at Bradford Management Centre (now the University of Bradford Management School), then investigated how these managerial decisions, particularly the major ones, came to be made. Comparing

150 histories of decisions in 30 organizations in England, they found three prevalent ways of making such decisions. Decisions could be arrived at by a process that was *sporadic*, 'informally spasmodic and protracted'; or *fluid*, 'steadily paced, formally channelled, speedy'; or *constricted*, 'narrowly channelled'.

Which type of process occurred depended more on what was being decided than on the kind of organization, manufacturer, hospital, utility or whatever it might be, in which it was being decided. The most complex and political matters (which could be new products or major reorganizations, for example) most often gave rise to a sporadic process; those that were still complex but less political (which could be a big share issue, for example) were likely to go through a smoother, fluid process; whilst those that were still political but less complex (which could be the organization's corporate budget and business plan) were likely to go through a tighter, constricted process. As the Bradford researchers put it, 'the matter for decision matters most'.

Together with his colleagues, Hickson therefore draws attention to three of the more crucial features of what managers have to work with. First, wherever in the world they may be, there will be consistent constraints, one decision upon another, in the structural features – as defined by the Aston Programme – that characterize organizations. Second, they must expect differing patterns of influence in different organizations: marketing may have great say in one firm but little in another, for instance. Third, by contrast, they will be able to recognize what is going on when big decisions are made in organizations other than their own, easily fitting in if they change jobs; a similarly complex and political matter is likely to engender much the same process wherever it occurs.

In later work Hickson with Pugh and others extended the investigation of national cultural differences and their effect on the processes of management in different countries.

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Joan Woodward

Joan Woodward (1916–1971) was Professor of Industrial Sociology at the Imperial College of Science and Technology, University of London. She began her research career at the University of Liverpool, but is best known for her subsequent work on technology and organization in manufacturing firms as director of the Human Relations Research Unit at the South-East Essex Technical College. She and her colleagues at Imperial College broadened and deepened this line of research.

From 1953 to 1957 Woodward led the South-East Essex research team in a survey of manufacturing organizations in that area (see Woodward 1958, 1965). In all, 100 firms participated, but because the amount of information obtained on them varied from firm to firm, the published information is on smaller numbers. Firms ranged in size from 100 employees to over 1000; some were the main establishments of their companies while others were branch factories. The survey was supplemented by intensive studies of selected firms.

Woodward does not use sweeping classifications of organizations by types (such as those suggested by Weber – charismatic, traditionalistic, bureaucratic; or by Burns – organismic, mechanistic). Rather than attempt in this way to summarize whole ranges of characteristics of organizations, she investigates specific features such as the number of levels of authority between top and bottom, the span of control or average number of subordinates per supervisor, the clarity or otherwise with which duties are defined, the amount of written communication, and the extent of division of functions among specialists.

Woodward finds that firms show considerable differences in features such as these. Foremen may have to supervise anything from a handful to 80 or 90 workers; the number of levels of management in production departments may be anywhere from two to eight; communication can be almost entirely verbal or largely written. Why should these differences occur?

Woodward's team compared firms of different sizes and examined differences in historical background, without finding any answer. But when differences in technology were studied, relationships were seen with many organizational features. It is not claimed as a result that technology is the only influence upon a firm's organization nor that individual managers make no impression, but that technology is a major factor.

Woodward finds that the objectives of a firm – what it wishes to make and for what markets – determine the kind of technology it uses. For example, a firm building novel prototypes of electronic equipment could not do so by the techniques of mass production which dominate vehicle manufacture. Production systems

differ in their degree of technical complexity, from unit (jobbing) and small batch production, through large batch and mass production to the most complex, namely process production.

These three broad categories are subdivided into nine sub-categories of production systems (see Woodward 1958, for an earlier and slightly different version) from least to most complex:

UNIT AND SMALL BATCH

1. Production of units to customers' requirements.
2. Production of prototypes.
3. Fabrication of large equipment in stages.
4. Production of small batches to customers' orders.

LARGE BATCH AND MASS PRODUCTION

1. Production of large batches.
2. Production of large batches on assembly lines.
3. Mass production.

PROCESS PRODUCTION

1. Intermittent production of chemicals in multi-purpose plant.
2. Continuous flow production of liquids, gases and crystalline substances.

Some firms used more than one of these production systems and so were placed in additional 'combined system' categories. A distinguishing feature of process systems is that they manufacture products measured by dimensions of weight or volume (for example liquids) rather than counted as series of integral units (for example numbers of vehicles or packaged goods).

In general, the higher the category the more it is possible to exercise control over the manufacturing operations because performance can be predetermined. In a continuous-flow plant such as a chemical installation, the equipment can be set for a given result; capacity and breakdown probabilities are known. But in batch production, full capacity may not be known; even well-developed production control procedures represent a continuing attempt to set fresh targets in face of the many uncertainties of day-to-day manufacture. In unit production of prototypes, for example, it is almost impossible to predict the results of development work.

These differences in technology account for many differences in organization structure. In process technologies where equipment does the job, taller hierarchies are found with longer lines of command, but managed through committees rather than by instruction down the line. Such hierarchies include more trained university graduates, and since the proportion of personnel working directly on production

is low, the hierarchy of administrative and managerial personnel comprises a comparatively large proportion of total employees.

Despite the complex administrative hierarchy of specialist staff and control departments common in large batch and mass production technologies, these have shorter lines of command and proportionately fewer managers and clerks. Their salient characteristic is large numbers of direct production operatives.

Unit and small batch production typically has an even shorter hierarchy where no manager is very far from the production work itself. This relies relatively heavily upon the production personnel themselves without extensive administrative controls.

Some organizational characteristics do not differ in the same order straight along the nine technology categories. On some, large batch and mass production are often distinctive, while unit and process production have much in common with each other. The large numbers of semi-skilled workers on which mass production is based mean that the span of control of supervisors is very wide, and since results are obtained through the pressure exerted by bosses upon subordinates, human and industrial relations may be strained. Typical of both unit and process production are comparatively small groups of skilled workers with closer personal relationships with their supervisors.

Similarly, the complex production control problems of large batch and mass systems are reflected in their larger numbers of staff specialists, greater paperwork, and attempted clear-cut definition of duties, leading to more 'mechanistic' organizations as Burns (see Chapter 2) has called them.

A rough assessment of the firms on both financial and market performance and on reputation showed that the apparently more successful firms had organizational characteristics near the median or average for their category of technology. Perhaps there is one form of organization most appropriate to each system of production. Successful process firms must have taller, more narrowly based organization pyramids; successful unit production firms must have relatively short pyramids, and so on.

Certainly more prolonged case-studies carried out by Woodward and her colleagues to test out the results of the initial survey showed that a change of technology category seems to force changes in organization. This in itself may bring conflict among those whose interests are affected, especially if the change is into batch type production. Firms were studied which moved from unit to batch, attempts being made to rationalize and increase the scale of production; and from process to batch where, for example, a firm began to package a product previously sold in bulk. In such cases, middle managers and supervisors found that in batch production their days disappeared in a confusion of calls and contacts with other people, that this subjected them to greater personal stress, and that their responsibility for production overlapped with that of new planning and control departments.

Indeed, such changes in technology may alter the overall status of the several functions in a firm. This is because the cycle of manufacture places development, production and marketing in a different order in different technologies. In unit

or jobbing systems, marketing precedes development and production follows last, since not until a customer requires a product and it is designed can production occur. In large batch and mass systems, the development and production of a new line precedes its mass marketing. In process systems, development of a possible product and marketing to assured customers must precede commitment of capital to special-purpose plant to produce it. In each system, the most critical function is the central one upon which success most heavily depends. That is, in unit systems, development has most importance and status; in mass systems it is production; in process systems it is marketing.

Woodward and her colleagues carried out further detailed case studies of managerial control in its various forms as the link between the technology of manufacture and organizational structure and behaviour. In *Industrial Organization: Behaviour and Control*, Reeves and Woodward focus upon two dimensions of managerial control systems: first, the extent to which control varies between being personal and impersonal; secondly, the degree to which control is fragmented.

Along the first dimension, there is a range of control systems from completely personal hierarchical control at one extreme, as operated by an owner-employer, to completely impersonal mechanical control at the other, as operated by measurement mechanisms and the automatic control of machine tools. In the middle of the range come the impersonal control processes which are based on administrative procedures, such as production planning and cost systems. Firms may be compared along this dimension, which is associated with characteristic effects upon structure and behaviour. The most important effect is that movement towards impersonal control involves a separation between the planning and execution stages of the work process.

At the personal end of the scale there is almost total overlap between planning and execution; with impersonal administrative control processes, there is considerable separation but the planning departments (such as production control, quality control and cost control) are involved in the execution of the work; at the mechanical end of the scale there can be total separation, the control designers and planners being totally unconcerned with the operations since they have already built in correction mechanisms at the planning stage. Indeed the planning and design stages at the mechanical control end of the scale may be the concern of a separate organization, as when a chemical engineering firm undertakes the design and erection of an automated continuous-flow chemical plant complete with mechanical control processes, which is then handed over to the contracting organization.

The second dimension of control systems studied by Reeves and Woodward was the extent to which control was fragmented, ranging from a single integrated system of control at one extreme to multisystem fragmented control at the other. To obtain a single integrated system, a firm would continuously attempt to relate the standards set for various departments to the performance and adjustment mechanisms associated with them. At the other end of the scale, a firm might have a number of control criteria operating independently which are continuously reconciled by the supervisor or the production operative. A job has to be done by

a particular date as set by production control, to a particular standard as set by quality control, to a cost limit as set by cost control, by particular methods as set by work study and so on. An inevitable result of having a multiplicity of systems with fragmented control is conflict: in attempting to satisfy one particular control criterion, supervisors jeopardize their performance on the others.

The two dimensions of control processes are used together to generate a four-fold typology of systems in a developmental sequence. Four categories are outlined:

1. Firms with unitary and mainly personal controls, such as an entrepreneurial firm, where the owner would personally relate time and quality to cost. This type is characteristic of unit and small batch production.
2. Firms with fragmented and mainly personal controls, such as a firm where more individuals are involved in setting control criteria.
3. Firms with fragmented and mainly impersonal administrative or mechanical controls, such as a firm where the control criteria are impersonally set by functional departments. Most large batch and mass production firms fall here or in category 2.
4. Firms with unitary and mainly impersonal administrative or mechanical controls, such as a firm controlling the total manufacturing process to a master plan, perhaps using a computer for information processing and process control. This type is characteristic of process production.

The basic assumption and conclusion of Woodward's work are that meaningful explanations of differences in organization and behaviour can be found in the work situation itself. The technology of this work situation should be a critical consideration in management practice. There is no one best way. She warns against accepting principles of administration as universally applicable. The same principles can produce different results in different circumstances; many principles derive from experience of large batch or mass production only and are not likely to apply to other technologies. Careful study of the objectives and technology of a firm is required.

Woodward's study was pioneering both in terms of empirical investigation and in setting a fresh framework of thought. Prior to it, thinking about organization depended on the apt but often overgeneralized statements of experienced managers and on isolated case studies of particular firms. Woodward showed the possibilities of comparisons of large numbers of firms so that generalizations might be securely based and their limits acknowledged.

She thus forced thinking away from the abstract elaboration of principles of administration to an examination of the constraints placed on organization structure and management practice by differing technologies and their associated control systems.

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Lex Donaldson

Lex Donaldson is Professor of Organizational Design at the Australian Graduate School of Management in Sydney. Originally from Liverpool in England, his undergraduate degree is from the University of Aston, Birmingham, and his PhD was gained at the London Business School. His research books and papers have established him as a major advocate of a scientific 'positivist' approach to how organizations are structured and why they change. He has put forward a carefully argued explicit theory of continual cycles of change, which explains, among other things, why high performance may not be all to the good. He has robustly defended his position and given detailed critical assessments of possible alternative approaches.

Donaldson crystallizes his position in his SARFIT model of organizational change. SARFIT stands for *structural adaptation to regain fit*. He argues that if good performance is to be attained, the principal structural features of an organization have to be constantly adjusted to fit the main factors that bear upon it. If its performance is suffering because it is out of alignment with such factors, then structural adaptation will bring it into fit and performance will improve.

If, for example, a firm has concentrated on making a certain range of products for its own home market, it is likely to have a functional structure. That is, it will be differentiated, or divided, into functions such as finance and sales and human resources, and production units each making some of the parts of the finished items, all reporting up the same line to the same top management. But if the firm diversifies, say, into making not one but three product ranges each aimed at different markets, then this structure will be strained. Too much will be loaded on to the management apex, and responsibilities and priorities will become confused. There will be misfit between task and structure. So performance will suffer.

Based on empirical study, Donaldson showed that the large majority of failing firms in this situation moved from a functional to a divisional structure, with each division responsible for only one of the product ranges. Each division had its own management structure with sales and HRM departments, and so on. This structural adaptation restored fit between task and structure, and performance recovered. Similarly, a firm that becomes a multinational corporation may have to divide into several divisions each covering a geographical area in order to recover fit. But SARFIT does not happen overnight: it may take years. Task and market strategy lead to structure, but only slowly.

The approach underlying SARFIT applies more widely, but Donaldson focuses the model on two main features of structure, and three main contingencies affecting

structure which have all been established by much empirical research. To do so, he draws, among others, on the work of Pugh and the Aston Group (see earlier in this chapter), Burns (see Chapter 2) and March (see Chapter 5).

The two structural features of the model are:

- bureaucracy
- differentiation;

and the three contingencies are:

- organization size
- task uncertainty
- task interdependence.

Of the structural features, *bureaucracy* has three principal constituents, namely specialization (narrowly defined jobs), formalization (rules) and centralization/decentralization (of authority). *Differentiation*, or grouping of activities, refers primarily to the contrasting functional and divisional structures.

A contingency is any variable that moderates the effect of an organizational characteristic on organizational performance. The first is *organization size*, that is, the number of employees. Of the two Task contingencies, there can be greater or lesser *task uncertainty* about what to do, when, and for how long, and greater or lesser *task interdependence* between activities, some having to wait upon what is done elsewhere whilst others are comparatively unconstrained by activities in other parts of the organization.

These three features are contingencies for an organization because if any of them alter, then there will be misfit, or misalignment, between them and its structure, and performance is likely to decline. In the SARFIT model, size and task moderate the effect of structure on performance. The model holds that rearranging structure with the intention of improving performance will not work unless the structural changes fit what the new size or task uncertainty or task interdependence require. This is because the potentially positive effect of organizational reform on performance is contingent on, that is, affected by, those variables.

With size this is because taking on more employees and growing larger requires an increase in bureaucracy if performance is not to decline. Without clearly defined bureaucratic structure, more people will be doing ill-defined jobs, poorly coordinated, and duplicating effort, which will be costly. Organization size and bureaucratization are positively related: the larger the organization the more bureaucratic it will be and should be.

Taking on new work which is not yet fully understood creates more *task uncertainty*, which requires more flexibility in organization if performance is not to decline. There must be decentralization with a looser, more organic structure. *Task interdependence* may require something similar when linked work requires flexible organizing.

Of these three broad contingencies that cause structural forms, size, Donaldson argues, is the more basic cause for it lies behind the two task contingencies and can alter them. For instance, to spur innovation in manufacturing more design staff

may be recruited. These extra staff then increase task uncertainty as they redesign plant or product.

SARFIT, like the wider contingency paradigm of which it is part, is a theoretical model of change. The statistical correlations on which it is based are not themselves inherently static, as they are sometimes thought to be. They show the likely directions of change. The model is a theory of performance-driven change. It shows that change in the structural features of organizations is predominantly a response to changes in performance. Low performance, due to a change in a contingency variable that causes misfit between contingency and structure, prompts reorganization. This brings structure into a new fit with the contingencies and so performance improves. This process is a functional one of adaptation, making changes so that the organization will perform better.

The idea of 'fit' is central to Donaldson's thinking. An organization initially may be in fit. If it then changes its level of a contingency variable while retaining its existing structure, it thereby becomes a misfit with its new contingency level. This misfit leads to lower performance, and the organization then tries to make an adaptive change to a new fit which could restore high performance. The difficulty for management is that they are unlikely to know exactly where fit will be. How much adjustment, in what, will achieve fit? But they are likely to recognise in which direction fit lies and to move towards it by trial and error, through one or more stages of 'quasi-fit', until fit is attained.

Organizations typically function at a 'satisficing' level of performance (see Simon, Chapter 5). Performance could be better perhaps, but it is good enough. So usually change is not provoked until performance drops below a satisficing level. (Donaldson acknowledges that performance-induced change is not the only kind of change in organizations.)

What then causes performance to fluctuate and set off the cycle of change? To explain this, Donaldson takes from finance the notion of a portfolio. In finance, a portfolio is a bundle of varied investments. An 'organizational portfolio' contains key corporate factors, both internal and external, which can cause performance to vary. There are eight of these. Four of them lead to adaptive change, namely: business cycle, competition, debt and divisional risk. The other four factors, namely: diversification, divisionalization, divestment and directors, are more likely to lead to a lack of adaptive change.

The first factor leading to adaptive change is the business cycle of economic activity, boom and recession, which can cause fluctuations in the performance of a commercial firm. The firm will need to change if the economic situation depresses performance but also if it enhances performance. This is because better performance leads to growth in size, and that too, as has been described, brings the misfit that triggers adaptation. The second factor, competition, has similar diverse effects. Though competition may depress performance, ineffective competition, from competitors themselves in misfit, could allow easier growth. Thirdly, debt may reduce profit or alternatively it may provide resources for growth. As for divisional risks, these will differ between the different products and markets of an

organization's divisions, causing the results of particular divisions to fluctuate, so affecting corporate performance overall.

First among the four portfolio factors which counter the need to change is diversification. Diversifying into a wider range of products or services can moderate oscillations in overall corporate performance as the results of one offset the results of another, averaging out. So there is less need to change. Divisionalization, which is likely to accompany diversification, works in the same way, spreading the risks. Thirdly divestment, selling off low-performing divisions or subsidiaries, also stabilizes the overall performance. Finally, directors who are non-executive can damp down the risks that might otherwise be taken by full-time directors and so avoid performance failures. They have been shown to exert a restraining influence in the boardroom because of their experience elsewhere. These latter four factors, by reducing the chances of changes in performance, make adaptive change less needful. It is also possible that two or more of these portfolio factors cancel each other out. Competition may be keen enough to force down profits, for example, but a simultaneous upswing in the business cycle could offset this by increasing sales. So performance is unaffected.

If, however, the combined effects of the portfolio factors do leave the performance of an organization which is in fit quite steady, then what? Why ever change? Why not just stand still? Conventional contingency theory does not have an answer to that, and would leave the organization in infinite equilibrium.

Donaldson's answer is to take a further theoretical step to develop his SARFIT model into a *neo-contingency theory*. Upward changes in any of the three SARFIT contingencies, he says, need more resources. Greater size would need funds to pay more personnel. The new equipment that increases task uncertainty and task interdependence requires capital. And so on. These resources are most readily generated by an organization that is in fit and high performing. They enable it to make these sorts of improvements. Yet these are the sorts of improvements that change its contingencies. Those changes then shi® it out of fit into misfit. Thus high performance feeds back to cause an organization to move from fit into misfit.

Neo-contingency theory is therefore a dynamic theory of disequilibrium, predicting continual change. It predicts that organizations in misfit will move into fit *and* also that organizations in fit will move into misfit. Change in one factor leads to change in others, which feeds back to cause further change in the first factor, thus causing recurrent change.

Throughout his writings, Donaldson espouses the philosophical position of positivism, and defends it from its critics. Contingency theory, and neo-contingency theory, are positivist since like the natural sciences they seek general causal relationships shown in law-like regularities. Organizations are to be explained by scientific laws in which the shape taken by organizations is determined by material factors such as the elements of the SARFIT model. These laws hold across organizations of all types and national cultures.

Critics of positivism see it as downplaying voluntaristic action, that is, failing to allow for such capability as the members of an organization have to act of their own accord in ways not determined in a rather mechanical manner by contingencies.

Donaldson does not deny these views in themselves. He sees them as tenable within the wider structural contingency view, but lacking the systematic generalizations it offers. They are confined to lower-level descriptions of employee behaviour, unable to offer a conception of an organization as a whole that can illuminate practical action.

For example, the conception of *strategic choice*, originated by Child (see earlier in this chapter), argues that the contingency theory of organizations is incomplete. That is because it is impersonal and does not recognize the scope that managers have to *choose* both the contingencies (they decide to increase size, for example) and the structure (they create specialist departments, or divisionalize). Against this, while Donaldson accepts that there is choice, he sees it as highly circumscribed. He points out that the research data show that contingency variables account for most of the variation in structure, substantially more than half. The preferences and choices of managers make little independent contribution. Moreover, those preferences themselves are limited by the situation in which the managers work. Although it is appealing to think of managers as freely making decisive choices, they typically select the right structure because they are 'conduits of causation'. The situational imperatives mean that they do not have a free strategic choice. Their room for manoeuvre is limited.

To those who, like Mintzberg (see later in this chapter), prefer *typologies* to shades of difference on many variables, Donaldson responds that though types are easy to remember they are unrealistic. Evidence that organizations in general fall into distinct types is lacking, whereas there is ample evidence of fine differences and similarities in numerous characteristics that do not add up to simply being this type or that type.

Population ecology theory (see Hannan and Freeman, Chapter 2) puts forward a very distinctive explanation of change. Change is brought about more by the 'death' of organizations that become outmoded and are squeezed out by new organizations with innovative ways, than it is by reforming existing organizations. Donaldson contends that evidence of misfitting organizations dying out is lacking. There is much more evidence that organizations are adaptive. Most open corporations do change strategy and structure and so do survive.

To Donaldson, a pervasive problem of other theories in organizational study is that they are value driven, that is, they are based not on supporting evidence but on how people might like the world to be. But, he says, 'sound theorizing is not wishful thinking'; it is based on clearly seeing the world as it is. The positivist thinking on which contingency theory and the SARFIT model rest is unrivalled in the understanding it gives of organizations, based as it is on empirical research.

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Elliott Jaques and the Glacier Investigations

Elliott Jaques (1917–2003) was a Canadian who graduated in psychology at the University of Toronto and later in medicine at the Johns Hopkins Medical School. After service in the Royal Canadian Army Medical Corps, he joined the staff at the Tavistock Institute of Human Relations where, over a period of years, he led a study of worker and management activities in the Glacier Metal Company – an engineering factory in London whose managing director was Wilfred Brown, himself a well-known writer on management issues (see Chapter 3). The Glacier Investigations may well come to bear comparison with the Hawthorne Studies for their impact on management thinking. For this work Jaques was awarded a Doctorate of Philosophy in the Department of Social Relations at Harvard University. He was a qualified Kleinian psychoanalyst and worked as a psychotherapist and as a ‘social therapist’ to the Glacier Company. Jaques was Professor of Social Science and Director of the Institute of Organization and Social Studies at Brunel University and worked with the National Health Service, the Church of England and with many commercial and public organizations in Europe and America.

Jaques and his collaborators in the Glacier Investigations use the technique of ‘action research’. Working in collaboration with members of the firm, they have several aims: to study psychological and social forces affecting group behaviour, to develop more effective ways of resolving social stress and to facilitate agreed and desired social change.

The problems they tackle are those on which particular groups in the organization request their help. Thus Jaques’s book *The Changing Culture of a Factory* describes, for example, studies of problems of payment and morale in the Service Department, worker-management cooperation in the Works Committee and executive leadership at the Divisional Managers’ meeting. The method used consists of the ‘working-through’ (by the investigator and the group together) of current problems and their possible solutions. The investigator attends meetings of the group, interpreting for its members the social and personal factors at play in an attempt to increase the social and psychological insight of the group. This also promotes a more rational attitude to social change.

The working-through process usually leads to the discovery that the apparent problems of the group are only symptoms of more basic and long-term difficulties; these are then examined. What began as an issue of wages and methods of payment in the Service Department, for example, soon developed into the complex

ramifications of inter-group stresses so often associated with wage questions. As a result of the working-through of management and worker differences at a series of meetings of representatives of both sides (which was facilitated by the investigator's interpretations), not only was the changeover to a new system of payment accomplished, but in the new situation created by these discussions it was possible to institute a Shop Council as a continuing mechanism through which members could take part in setting policy for the department.

One of the most important findings to come out of the Glacier Investigations is people's felt need to have their role and status clearly defined in a way which is acceptable both to themselves and to their colleagues. Where there is some confusion of role boundaries, or where multiple roles occupied by the same person are not sufficiently distinguished, insecurity and frustration result. The study of the Divisional Managers' meeting showed that it functioned sometimes as an executive management committee taking decisions for the London factory, sometimes as a group for non-decision-making discussions with the Managing Director, and sometimes as a concealed Board of Directors for the whole company (including the Scottish factory). In this mixture of different functions, the same group had different powers over the affairs of the organization, depending on the particular capacity in which it was functioning. But the fact that these powers were not clear was personally disturbing to the members.

Even when a role has been defined it may contain elements which the individual finds unacceptable or difficult to fill. In an organization committed to consultative management, a superior may become increasingly unwilling to exercise authority. Jaques describes some mechanisms by which responsibility and authority may be avoided. One is the exercise of a consultative relationship only. Thus the Managing Director, failing to perceive that he also held a role as chief executive of the London factory, adopted only a consultative Managing Director's role to the Divisional Managers. This led to a gap in the executive hierarchy. Another mechanism is the misuse of the process of formal joint consultation. This often provides an escape route from accepting responsibility for immediate subordinates by making possible easy and direct contact between higher management and workers' representatives. To make consultative management work, the consultation must follow the chain of command, otherwise conflict arises from those bypassed. Yet another evasive possibility is pseudo-democracy; for instance, a superior asserting 'I'm just an ordinary member of this committee' while being in fact the most senior person present, or a superior avoiding a leadership role by excessive delegation. One of the most important conclusions is that there is a distinctive leadership role in groups that members expect to be properly filled, and groups do not function well unless it is.

At the conclusion of these Tavistock studies, Jaques changed his position, becoming, with the consent of the workers' representatives, a part-time employee of the firm. He still retained his independent position, however, and continued his role as social analyst, working on problems of wages and salaries. Since previous discussion had revealed continuous problems arising from supposed unfair differences in pay, the task was to determine the appropriate payment and status

of individuals; in other words, how to establish what will generally be accepted as the right level of pay for a given job, particularly in relation to other jobs.

Work was divided by Jaques into its prescribed and its discretionary content. Prescribed work is specified in such a way as to leave nothing to the judgement of the individual doing it. But all jobs have some content, however small, which requires the individual to use discretion. From this developed the concept of the 'time-span of discretion' – the idea that the main criterion by which the importance of a job is implicitly evaluated is the length of time which expires before decisions taken by an individual are reviewed and evaluated. At the lowest level what the individual does is frequently checked, but at the highest level it might take several years before the effectiveness of a decision shows up. This approach is developed by Jaques in *The Measurement of Responsibility*.

Jaques finds that there is not a continuous increase in range of timespans of discretion as one goes up the organization; in fact, the changes go in steps. He identifies seven major strata (although there are substeps within each) up to three months, up to one year, two years, five years, ten years, twenty years, more than twenty years. These are generally recognized as clear differences of level, worthy of differences in payment. Those working in level one accept that those with level two discretion should be paid more and all would feel it inequitable if they were not. Differentials in 'felt-fair pay' – what people think they and others should earn – are very highly correlated (0.9 in the Glacier Metal Company) with objective measurements of differences in timespan, so that if a payment system is based on the discretion differences between jobs, it will generally be seen as equitable.

A third element is the growth in capacity of the individual to operate with greater discretion. Jaques thus presents earnings progression curves which identify appropriate payments for those capable of, and on their way towards, higher levels of discretion. Individuals function best when working at a level which corresponds to their capacity and for which they obtain equitable payment, but appropriate opportunity must be given for individuals to progress to their maximum timespan capacity.

These arguments are developed in *Free Enterprise, Fair Employment* in which both Keynesian and monetarist economic measures are rejected as inadequate for dealing with self-perpetuating inflationary movements which then cause unemployment. Jaques argues that any nation has as much work as it wants for everyone, regardless of economic conditions. But there is one prime condition for full employment without inflation: the achievement of equitable pay differentials by political consensus based on the equitable work payment-scale appropriate to different time-span levels. Jaques presents evidence that in 1980, for example, the equitable annual wage and salary levels for a timespan of discretion of three months was £7000 in England and \$20 500 in the US, whereas for a two-year timespan job it was £19 500 and \$60 000. (The actual monetary levels will, of course, change over the years depending upon the rate of earnings inflation.)

The figures are not for the *actual* levels of pay in 1980 but for what people felt was differentially fair at that time. Any systematic policy for wages and salaries must decide (i) what the general level should be in one year compared with the

preceding year, and (ii) whether any adjustment of differentials is called for: should the rates for the timespan levels be compressed or expanded, in the whole of the range or part of the range, and so on. These are issues for a rational policy which Jaques maintains would be accepted as just and fair as long as the differences in timespan of discretion were objectively determined and recognized.

Levels of timespan of discretion and the individual's work capacity to operate within them are also the keys to Jaques's general theory of bureaucracy. A bureaucracy in Jaques's terms is a hierarchically stratified employment system in which employees are accountable to their bosses for work that they do. This particular definition (which is somewhat different from the usual one – see Weber earlier in this chapter) means that, for example, universities which have collegiate accountability for academic staff, or trade unions which have electoral accountability for full-time officers, are not bureaucracies in this sense. Jaques is insistent that neither his theory of bureaucracy nor his theories of timespan of discretion and equitable payment are intended to apply in such organizations.

In bureaucracies (such as business firms, government agencies, armed services), Jaques has found that ascending the hierarchy involves operating with increasing timespans and that the basic seven strata of timespan correspond with levels of thinking capability – from concrete thinking at the bottom end to abstract modelling and institution-creating at the top. The capacity to operate at longer timespans with higher levels of abstraction in reasoning is the determinant of effectiveness at the higher levels of bureaucracy. The reason why bureaucracies are pyramidal in shape is that this work capacity (which Jaques maintains is innate) is very differentially distributed in human populations. Fewer are capable of the higher abstractions, a fact generally recognized by organization members. It is the consensus which would allow equitable payment based on time-span capacity to operate in economic competition *without* the exploitation of labour.

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Alfred D. Chandler

Alfred Chandler (1918–2007) was Professor of Business History in the Graduate School of Business Administration, Harvard University. He was an economic historian whose research work has centred on the study of business history and, in particular, administration. He long argued that this is a much neglected area in the study of recent history. His studies of big business have been carried out with grants from a number of sources including the Alfred P. Sloan Foundation. His work has been internationally recognized, his book *The Visible Hand* being awarded the Pulitzer Prize for History and the Bancroft Prize. Chandler taught at a variety of universities in the US and Europe.

All of Chandler's academic work has been concerned with the theme of the rise and role of the large-scale business enterprise during what he describes as the formative years of modern capitalism. These are the years 1850–1920. He suggests, from his many studies, that during this period a new economic institution was created – the multi-unit firm – controlled by a new class of managers operating within a new system of capitalism. These new managers had to develop strategies different from those of their entrepreneurial predecessors and also be particularly innovative in creating structures to implement those strategies. The reasons for this shift are to be found in changes in demand bringing about mass markets and technological change which allowed high volume production. The new organization structures allowed the integration of mass production with mass distribution.

While Chandler's analysis is historical, he makes general points about organizational change and the relationship between strategy and structure. In particular, from his studies Chandler is clear that the structure of an organization follows from the strategy that is adopted. The distinction between these two is crucial. *Strategy* is the determination of basic long-term goals and objectives together with the adoption of courses of action and the allocation of resources for carrying out those goals. *Structure* is the organization which is devised to administer the activities which arise from the strategies adopted. As such it involves the existence of a hierarchy, the distribution of work and lines of authority and communication. In addition, the concept of structure covers the information and data that flow along those lines.

Once an organization moves away from the small, owner-controlled enterprise towards the modern, multi-unit business enterprise, then the new class of managers appears. This is important for structural developments because the salaried manager is committed to the long-term stability of the enterprise. The managerial hierarchy gives positions of power and authority and as a result becomes a source

both of permanence and continued growth. As part of this process the careers of salaried managers become increasingly technical and professional.

The role of management in developing structure is central to Chandler's analysis. As he puts it, 'the visible hand of management has replaced Adam Smith's invisible hand of market forces'. Managers are both products of, and developers of, the multi-divisional, decentralized structure which is the organizational outcome of technological change and rising demand. They become responsible for the administration of the enterprise; that is, coordinating, planning and appraising work, and allocating resources.

The structural arrangements of a large business enterprise have to allow both for the efficient day-to-day operations of its various units and for dealing with the long-run health of the company. The developments which follow from this involve operating with a decentralized structure to deal with day-to-day manufacturing and services, and building up a central office with functional departments to manage the long-run prospects of the company. This is all part of the process of specialization of functions as a major structural device. The key distinctions are between the general office, divisions, departments and field units, each of which has a particular function. One of the basic reasons for the success of this type of structure is that it clearly removes from immediate operations those executives responsible for long-term planning and appraisal. The significance of this separation is that it gives those executives the time, information and psychological commitment for long-term activities.

The introduction of this distinctive organizational structure (with its unique managerial hierarchy) marked the transition from family- or finance-based capitalism to managerial capitalism. But because, in Chandler's view, structure follows strategy, this transition could occur only in response to external pressures. Particularly important was the increasing volume of activity which arose in response to the new national and increasingly urban markets of the late nineteenth century. Together with this was technological change which enabled enterprises to move into high-volume production.

In the face of such pressures, enterprises could adopt either defensive or positive strategies. A *positive strategy* occurs when an enterprise actively looks for new markets and new products to serve those markets. It is organized around product diversification. A *defensive strategy* is where an enterprise acts to protect its current position. The common way of achieving this is to form a vertically integrated company by means of mergers with similar enterprises, suppliers and customers.

Both strategies lead to bigger organizations which have administrative problems. This begins a systematization of techniques for the administration of functional activities. An initial type of organization for achieving this is the centralized, functionally departmentalized structure. It enables the necessary new expert skills to be brought while owners still retain control. But increasing the scale of organizations involves building up capacity and enlarging the resources of people, money and materials at the disposal of an enterprise. A result of this is further and continuing growth to ensure the full use of those resources, a result which emanates from the interests of the new managers rather than the owners. Growth

becomes internally as well as externally generated and then produces the really innovative structure – multi-unit decentralization.

To illustrate his points in detail and to chart the process of structural innovation, Chandler looks at the cases of four companies: Du Pont, General Motors, Standard Oil of New Jersey and Sears Roebuck. According to Chandler, the general pressures and needs facing these four companies were the same. Also in general terms, the structural outcome was very similar. But the process of diagnosing the issues and introducing the consequent administrative changes was quite different.

The particular structural innovation of Du Pont was to create autonomous divisions. The company reached the beginning of the twentieth century as a loose federation with no central administrative control. The first strategy of the younger Du Ponts was to centralize control and concentrate manufacturing activity in a few larger plants. This was the centralized, functionally departmentalized structure. Important to the operation of the company was the development of new forms of management information and forecasting. The introduction of the multi-unit, decentralized structure came with the need to maintain growth. It was done by basing the structure on a new principle, coordinating related effort rather than like things. This innovative principle meant that different broad functional activities had to be placed in separate administrative units. To operate these units, the executives responsible were given enhanced authority. Eventually these developed into product-based units backed by a central, general office to deal with strategic issues. This led the autonomous units to get on with day-to-day operations.

The General Motors case underlines the need for structure to follow strategy. William Durant, the founder of General Motors, went for a volume strategy with many operating units in an extremely loose federation. There was a crisis in 1920 due to lack of overall control. The response of Alfred P. Sloan, who became the Chief Executive Officer in 1923, was to create a general office to be responsible for broad policies and objectives and to coordinate effort. A line-and-staff structure was developed, allowing the product divisions to ensure good use of resources and a proper product flow, with the headquarters staff appraising divisional performance and plans. The new structure took five years to put in place (see Sloan, Chapter 4).

As with General Motors, Standard Oil of New Jersey was, for Chandler, a case of initial failure to adjust structure to strategy. The channels of authority and communication were insufficiently defined within a partly federated, partly consolidated company. As a result there was a series of crises over inventories and over-production during the 1920s which led to ad hoc responses. The initial development was to build up a central office for resource allocation and coordination. A second stage was to set up a decentralized divisional structure. According to Chandler, the response in Standard Oil was slower and more tentative than in Du Pont or General Motors, partly because the problems were more difficult and partly because of a general lack of concern with organizational problems.

During the 1920s and 1930s, Sears Roebuck underwent the same process in its own particular way, partly planned and partly unplanned. The initial defensive strategy of vertical integration produced a centralized, functionally departmentalized structure. Continued growth produced pressure for decentralized, regional

organization and for sorting out the relationships between operating units and functional departments. Contributors to the book edited by Chandler and Daems trace similar processes in French, German and British industry.

For Chandler, both his case studies and his broader work illustrate a number of general points about structural development and organizational innovation. The first is that the market and technological pressures of an urban, industrial society push enterprises in the same structural direction, though the actual process of innovation can be quite different. In this process it is important to distinguish between an adaptive response and a creative innovation. An *adaptive response* is a structural change which stays within the range of current custom and practice, as was the case with functional departments and a central office. A *creative innovation* goes beyond existing practice and procedures, developing decentralized field units for example. The general adoption of a line-and-staff departmental structure meant that delegation of authority and responsibility to field units was possible.

From this process, says Chandler, there arises a new economic function in society, that of administrative coordination and control. To carry out that function, a new species is created, the salaried manager. Thus the modern business enterprise, with its two specific characteristics of the existence of many distinct operating units and their management by a hierarchy of salaried executives, comes into being.

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Oliver E. Williamson

Oliver Williamson, an American economist, began his working life as a project engineer in US government service, but soon moved into academic life, taking degrees at the Universities of Stanford and Carnegie-Mellon. His career took him through leading American universities, and he is now Professor Emeritus of Business, Economics, and Law at the University of California, Berkeley.

Williamson probes beneath the usual questions about what organizations are like and how their members behave to ask why they are there at all. Why organizations? His answer is because they lower the cost of transactions. He sees society as a network of transactions – contracts in the widest sense of that term – and suggests that a ‘transactional paradigm’ will yield the reasons for organizations. These reasons are not size – that is, the economies of scale which have been supposed to explain large organizations – nor large-scale technologies, but the information cost of transactions. Size and technology are important not in themselves, but because of the demands they make for information.

Each of the multitude of recurrent transactions which take place in a society can be conducted either in a market or within an organization. Which mode of transacting is used depends upon the information available and the costs to the transacting parties of adding to that information should they require more. As the requirements for information change, transactions may be conducted more in markets, or more and more within organizations. The trend has been for more transactions to be gathered within the boundaries of organizations, and Williamson’s discussion is primarily about change in that direction. That is because he has been concerned mainly with societies moving that way, but if the starting point were a society in which central planning and non-market transactions predominated, the analysis could as appropriately deal with the shifting of transactions from within organizations out to markets. Analysis of transaction costs can answer ‘why not organizations?’ as well as ‘why organizations?’

Williamson’s point of view joins market economics to organization theory in a form of institutional economics. He looks forward to the possibility that measures of market structure will eventually combine with measures of the internal structure of organizations (see Derek Pugh and the Aston Group, earlier in this chapter).

Markets and *hierarchies* are alternatives for conducting transactions. Thus transactions are brought within the hierarchical structures of organizations when the market mode is no longer efficient. For example, mergers or takeovers bring into a single organization contracting parties whose transactions will then be regulated by the internal rules of a hierarchy and not by the rules of a market.

Additionally, organizations are set up to transact within themselves business that might alternatively have been done by separate parties contracting between themselves in market terms.

Which mode is adopted depends upon the degree of *information impactedness*. This exists when the 'true underlying circumstances' of a transaction are known to one or more parties but not to others. Where there is less than complete trust between the parties, those who lack information can obtain parity only by incurring costs, which may be high, even prohibitive. Thus a buyer who is offered supplies may be unsure whether the quality will be what is required, whether delivery is likely to be on time, or how far the proposed price is more than need be paid. This may be because no one, not even the seller, has adequate information on these matters; or it may be that even if information is available, the buyer cannot trust it because the seller will have interpreted it to favour the selling vantage point.

A market is the most efficacious mode of conducting transactions when all necessary information is conveyed between parties by a price; that is, when this single item of information is sufficient. Transactions are better brought within a hierarchy when much more must be known, when much less is certain, and when there may be 'quasi-moral' elements, for the hierarchy brings the inadequately informed parties to a transaction together under some degree of control.

Transactions will be shi@ed out of a market and into the hierarchy of a firm or other form of organization when information impactedness is high. That is, when the uncertainties and distrust inherent in transactions become so great that those involved cannot determine acceptable prices. At this point the advantages of a hierarchy outweigh those of a market. First, it extends the bounds on rationality. Though the rationalities of each of the parties within an organization are still restricted, specialization enables each to deal with a part of the overall problem that is small enough to be comprehended, the results of everyone's work being brought together by specialized decision-makers at the apex. More information is exchanged or can be required to be handed over. Common numbering and coding systems and occupational jargon cut down communication costs. Second, subsections of an organization can each attend to a given aspect of the uncertainty-complexity of a situation, so making manageable a problem which would in total be too uncertain-complex. Aspects can be attended to as the situation unfolds rather than all at once, and decisions which might otherwise be too complex can be split down into smaller sequential steps (see Lindblom, Chapter 5). Third, a hierarchy curbs opportunism. Pay, promotion and control techniques ensure that the parties work in some degree towards common goals. Confidence may not be complete, but it is greater. Parties cannot use their gains entirely for their own ends, and what they do can be more effectively checked and audited. Should disputes arise, superior hierarchical levels can decide them. Fourth, where there are small numbers – a situation which opportunistic parties are inclined to take advantage of – the hierarchy can overrule bargaining.

In general then, hierarchy more nearly approaches parity of information and, in particular, provides for quasi-moral and reciprocal obligations over and above strictly economic ones.

What then stops hierarchies from taking over more and more transactions indefinitely? The limits begin to appear as firms grow larger and as vertical integration between firms extends. Costs then rise to a level at which the marginal costs of administering the incremental transaction begin to exceed those of completing transactions through a market. The goals of groups or sub-sections within an organization start to outweigh common aims; the proliferation of specialists in control systems to combat this tendency becomes more and more expensive; sunk costs encourage the persistence of existing ways of working even if they would not now be done that way were they to start afresh, and communication is increasingly distorted. Leaders become more distant from those they lead – ‘bureaucratic insularity’ – and cooperation between those at lower levels becomes perfunctory rather than wholehearted. Coordination and common purpose lapse.

These costs rise in the unitary structure of hierarchy (called ‘U-form’) when the top management of a single large organization tries to control transactions within it. The U-form is therefore a vanishing breed among large US corporations, although the Reynolds Metal Company and the Quaker Oats Company retained this form throughout the 1960s. Organizational transaction costs can be relatively reduced by the adoption of a multi-divisional structure (called ‘M-form’) as in the examples described by Chandler (see previous section) of Du Pont, General Motors, Standard Oil of New Jersey and Sears Roebuck, who changed to the M-form in the 1920s and 1930s. To be effective, this form of organization requires the general overall management to concentrate on monitoring the performance of the constituent divisions and on strategic planning. Management can use the multi-divisional structure as a miniature capital market in which funds are moved into the most profitable uses more effectively than by the external capital market. This is so because internally there is more complete information about the firm than parties in the external capital market can gain about comparative investment opportunities.

But if general management gets involved in the day-to-day operation of the divisions, then information costs will again be forced up, in what is called the ‘corrupted M-form’. One large corporation is quoted as attempting to move from the corrupted M-form by releasing a total of 5000 non-production personnel. It also reduced corporate staff – people not reporting to profit centres – by over 1300, down to a new total of 132. The aim was to decentralize into true profit centres in which each divisional manager’s performance could be accurately evaluated without the allocation of heavy corporate overheads.

If the change from the corrupted M-form cannot be achieved and information costs remain high, then market transactions will become more attractive. Ultimately it is the relative cost of overcoming information impactedness that determines whether transactions in a society are conducted through markets or within organizations. Thus, in Williamson’s terms, transaction cost economics determines the mechanisms of organizational governance.

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Henry Mintzberg

Henry Mintzberg is Cleghorn Professor of Management Studies at McGill University, Montreal. He graduated from the Sloan School of Management at the Massachusetts Institute of Technology. Among a variety of consulting assignments and visiting appointments, he has been visiting professor at the University of Aix-en-Provence in France. He has studied what managers actually do as they manage, and what kinds of organization they are managing.

Mintzberg shows a substantial difference between what managers do and what they are said to do. On the basis of work activity studies, he demonstrates that a manager's job is characterized by pace, interruptions, brevity, variety and fragmentation of activities and a preference for verbal contacts. Managers spend a considerable amount of time in scheduled meetings and in networks of contacts outside meetings.

The fragmentary nature of what managers do leads to the suggestion that they have to perform a wide variety of roles. Mintzberg suggests that there are ten managerial roles which can be grouped into three areas: *interpersonal*, *informational* and *decisional*.

Interpersonal roles cover the relationships that a manager has to have with others. The three roles within this category are figurehead, leader and liaison. Managers have to act as *figureheads* because of their formal authority and symbolic position, representing their organizations. As *leaders*, managers have to bring together the needs of an organization and those of the individuals under their command. The third interpersonal role, that of *liaison*, deals with the horizontal relationships which work activity studies have shown to be important for a manager. A manager has to maintain a network of relationships outside the organization.

Managers have to collect, disseminate and transmit information and have three corresponding informational roles, namely monitor, disseminator and spokesperson. A manager is an important figure in *monitoring* what goes on in the organization, receiving information about both internal and external events and transmitting it to others. This process of transmission is the *dissemination* role, passing on information of both a factual and a value kind. A manager often has to give information concerning the organization to outsiders, taking on the role of *spokesperson* to both the general public and those in positions of influence.

As with so many writers about management, Mintzberg regards the most crucial part of managerial activity as that concerned with making decisions. The four roles that he places in this category are based on different classes of decision: entrepreneur, disturbance handler, resource allocator and negotiator. As *entrepreneurs*, managers

make decisions about changing what is happening in an organization. They may have to both initiate change and take an active part in deciding exactly what is to be done. In principle, they are acting voluntarily. This is very different from their role as a *disturbance handler*, where managers have to make decisions which arise from events beyond their control and unpredicted. The ability to react to events as well as to plan activities is an important managerial skill in Mintzberg's eyes.

The *resource allocation* role of a manager is central to much organizational analysis. Clearly a manager has to make decisions about the allocation of money, people, equipment, time and so on. Mintzberg points out that in doing so a manager is actually scheduling time, programming work and authorizing actions. The *negotiation* role is put in the decisional category by Mintzberg because it is 'resource trading in real time'. A manager has to negotiate with others and in the process be able to make decisions about the commitment of organizational resources.

For Mintzberg these ten roles provide a more adequate description of what managers do than any of the various schools of management thought. In these roles it is information that is crucial; the manager is determining the priority of information. Through the interpersonal roles a manager acquires information, and through the decisional roles it is put into use.

The scope for each manager to choose a different blend of roles means that management is not reducible to a set of scientific statements and programmes. Management is essentially an art and it is necessary for managers to try and learn continuously about their own situations. Self-study is vital. At the moment there is no solid basis for teaching a theory of managing. According to Mintzberg, 'the management school has been more effective at training technocrats to deal with structured problems than managers to deal with unstructured ones'.

Mintzberg presents a way of understanding the design of organizations and suggests that there are seven types. As shown in the table, the first five types are differentiated according to which basic part of the organization forms the key to its operations. In the entrepreneurial organization it is the 'strategic apex' which is key. In a manufacturer, for example, this would be the president or chief executive, the board of directors, and their personal staff. In a machine organization, it is the 'technostructure' which is key: this includes those in planning, finance, training, operations research and work study, and production scheduling. The key part in a professional organization is the 'operating core', those at the working base of the organization. While in a manufacturer this would be the buyers, machine operators, salespeople and despatchers, in a professional organization it might be doctors and nurses (in a hospital) or teaching staff (in a college). The 'middle line' are key in the diversified organization, being the personnel who 'manage managers' in the hierarchy between the strategic apex and the operating core. In manufacturing these would include the heads of the production and sales functions and the managers and supervisors beneath them. In an innovative organization which Mintzberg calls an 'adhocracy', the 'support staff' are the key part. In a typical manufacturer they might be in public relations, industrial relations, pricing, payroll, even the cafeteria, as well as in research and development, but in an adhocracy the focus is upon the latter, the R & D. In the final two configurations, no part of the organization itself

is key. Missionary organizations are pulled by ideology, and political organizations have no key feature.

Seven Organizational Types

Organizational configuration	Prime coordinating mechanism	Key part	Type of decentralization
Entrepreneurial	Direct supervision	Strategic apex	Vertical and horizontal centralization
Machine	Standardization of work processes	Technostructure	Limited horizontal decentralization
Professional	Standardization of skills	Operating core	Horizontal decentralization
Diversified	Standardization of outputs	Middle line	Limited vertical decentralization
Innovative	Mutual adjustment	Support staff	Selected decentralization
Missionary	Standardization of norms	Ideology	Decentralization
Political	None	None	Varies

Source: Mintzberg (1989).

In each of the first five types, its key part exerts a pull upon the organization. ‘To the extent that conditions favour one over the others, the organization is drawn to structure itself as one of the configurations,’ or designs. It is pulled towards one more than towards the others.

The first type, the *entrepreneurial organization*, in which the strongest pull is by the strategic apex towards centralization, is as simple as its name indicates. It has little or no technostructure, few support staff, minimal differentiation between departments and a small hierarchy. Coordination is by direct supervision, downwards from the strong apex where power is in the hands of the chief executive: so it does not need formal planning or training or similar procedures, and can be flexible and ‘organic’ (see also Burns, Chapter 2). The conditions favouring this form are those of the classic entrepreneurial owner-managed firm. A small organization is a simple yet dynamic environment which can be understood by one leading individual. Most organizations pass through this structure in their formative years, and some stay small enough to continue it. They could be as diverse as an automobile dealership,

a retail store, a brand-new government department or a vigorous manufacturer on a small scale.

Some people enjoy working in such an organization because of the sense of mission it gives, and its flexibility. Others resent the domination from the top. They see it as paternalistic or autocratic, unfashionable in democratic times. The organization is also precarious: 'one heart attack can literally wipe out the organization's prime coordinating mechanism'.

The *machine organization* is far more secure (see Weber on bureaucracy, earlier in this chapter). It does not depend on a single person. The strongest pull on it is from its technostructure, the planners, financial controllers, production schedulers and their kind. They pull towards standardization. Once work has been divided into standard routine tasks, it can be controlled by them through formalized rules and regulations. Control is almost an obsession. It is second only to the entrepreneurial structure in centralization, but in it power is divided between the strategic apex and the technostructure. A post office, a steel manufacturer, a prison, a major airline or a vehicle assembler are all like this. They have the conditions favouring this design, mainly that they are older, larger organizations carrying out repetitive work in stable environments, probably themselves subject to control from a remote corporation head office or government.

Though efficient at repetitive work, this form of organization is riddled with conflict between top and bottom and between departments. To many of its personnel the work they do is meaningless. Its managers spend much of their energy just holding it together. It was fashionable at the height of the Industrial Revolution, but like the entrepreneurial structure it is no longer so.

The third kind of configuration or design, the *professional organization*, is pulled by its *operating core* towards professionalized autonomy. That is, it is dominated by highly trained professional specialists. These have to be employed because the work is too complex to be controlled and coordinated in any other way. So it is broken up into specialisms, and people are hired to do it who already have standardized skills. That means professionals already trained and indoctrinated who can be relied on to do what has to be done. This is the situation in universities, hospitals, schools, accountancy firms, social work agencies and some firms that employ highly skilled craftspeople (for example in fashion textiles designing). Since others without the training cannot interfere, the professionals are relatively independent. Their working autonomy is usually reinforced by a high demand for the service they give. Hence, whilst the machine organization is run by hierarchical authority, the professional organization emphasizes the power of expertise. While the machine organization sets its own standards, the bureaucratic administrative framework of a professional organization accepts standards set externally by professional bodies such as the medical and accounting institutions.

This design of organization is uniquely democratic, but it suffers from difficulties of coordination and jurisdiction. Who should teach the statistics course in the management degree – the staff of the mathematics department or the business department? And who can declare a professor incompetent, and what then can be done about it?

The *diversified organization* is most widely used by large private industrial corporations, but it can also be seen in those American universities that have several campuses, or in health administrations which control several hospitals, and generally in socialist economies where government ministries control numbers of enterprises. It piggybacks on the machine organization, for it is a headquarters controlling several divisions. These subsidiary machine organizations make a powerful *middle line*, in Mintzberg's terminology, the key part around which the organization functions. It is pulled towards Balkanization, for each division is relatively self-sufficient with its own marketing, purchasing and manufacturing (or equivalent) and so on, and each operates in its own market. Indeed, the diversified form is usually the result of a machine organization diversifying across more than one market, either into different products or into different geographical areas.

Though each division has a great deal of autonomy, headquarters decides how much capital each shall have and watches numerical performance indicators such as profits, sales and return on investment. This is where the problems arise. Headquarters may meddle too much in divisional decisions, and its concentration on numerical indicators may neglect other considerations such as product quality or environmental preservation. Mintzberg suspects that, though the diversified organization is a fashionable sign of the times, it may be the most vulnerable of the five designs to legal and social changes.

In contrast, a space agency, an avant-garde film company, a factory making complex prototypes or a petrochemicals company is likely to be designed as an *innovative organization* or *adhocracy*. These are young research-based organizations which need to innovate in rapidly changing conditions. The primary key part of an adhocracy is the *support staff* in research and development, but there may also be key operating core personnel, experts on whom innovation depends. Unlike the professional organization, the adhocracy is not seeking the repetitive use of professionally standardized skills. Instead, it groups its highly trained specialists in mixed project teams, hoping to generate new ideas. It is pulled towards coordination within and between teams by 'mutual adjustment' (see Thompson, Chapter 2), that is, by direct cooperation. Unified bureaucratic controls might get in the way. Of the five designs of organization, 'Adhocracy shows the least reverence for the classical principles of management' (for example as promulgated by Fayol, Chapter 4). It is uniquely both organic and decentralized.

There are two variants of adhocracy. An operating adhocracy works directly for clients, as in an advertising agency, whereas an administrative adhocracy serves itself, as did the National Aeronautics and Space Agency, NASA, in building up American space exploration.

Inevitably, adhocracy creates difficulties as well as innovations. People talk a lot, and this costs time. There is confusion over who is doing what. It is the most politicized design, breeding internal competition and conflict. But its strength in enabling flexibility of response means that new industries rely on this configuration. Mintzberg maintains that adhocracy is the structure of our present age, and he also confesses that this is the type of organization that he likes best.

The *missionary organization* does not have a key part, as such. Its key glue, which holds everything together, is the possession of an ideology, that is, a rich system of distinctive values and beliefs shared by all the members. It is rooted in a deep sense of mission, associated with charismatic leadership and developed through strongly held traditions which reinforce the identification of the individual with the organization. Coordination is through standardization of norms, reinforced by selection and indoctrination of members. In the West, we had thought this approach to be appropriate to religious institutions, but Japanese corporations have shown that it can be successfully applied in business settings. And not only in Japanese culture: many American firms have an overlay of the missionary approach – for example McDonald's or Hewlett-Packard – and build their effectiveness on an organizational ideology.

The final configuration is the *political organization*, which does not have overall coordinating mechanisms but is characterized by conflict. All organizations have a degree of conflict, where some 'political' activity takes place. This does not prejudice the organization's functioning and indeed has a positive role to play in stimulating change. But when the conflict is pervasive, the organization has become politicized. This form characterizes some large public sector institutions riven by conflicting approaches about both methods and objectives, and by private corporations after takeovers and mergers. If the conflict cannot be reduced, the organization will not survive – unless it is artificially protected by, for example, the government.

It is important for managers to understand the configuration of their particular organization in order to ensure that the various parts fit together and are consistent in what they do. But, Mintzberg warns, do not forget that there will always be contradictions among the forces in organizations. Managers should use these contradictions creatively, not ignore or try to suppress them. The process of strategy formulation must not be over-managed, only from the top down, or it will become rigid and sterile. Strategies can be emergent, rather than designed. They can take root in any part of an organization and then be successfully adopted by the top management.

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Charles Handy

Charles Handy is a British writer and broadcaster. Born in Ireland, he has been an oil company executive, a business economist and a professor at the London Business School. He was Warden of St George's House in Windsor Castle, which is a centre for discussion of issues of business ethics, on which topic he takes a Christian approach. He has served as Chairman of the Royal Society for the Encouragement of Arts, Manufacture and Commerce, and was the 1994 British Business Columnist of the year. His concern is with the changing nature of work and organization in modern economy and society.

Handy distinguishes four types of organizations, each symbolized by its characteristic Ancient Greek god or goddess. Each generates a distinctive organizational culture which pervades all its activities. The first type is the *club culture*, thought of as presided over by Zeus, who epitomizes the strong leader who has power and uses it. The visual image of this culture is a spider's web. Although there may be formal organizational departments and lines of authority, the only lines that matter are those, formal or informal, leading to the boss at the centre of the web. Most organizations begin in this culture, where the strength is in speed of decision. A limitation is that the quality of the decisions depends entirely on the calibre of the boss and the inner circle, since others can make little impact. You advance in this organization by learning to think and act as the boss would have done in your situation.

The second type of organization is the *role culture*, with its patron god Apollo, the god of order and rules. It is pictured as a Greek temple, where the pillars represent the functions and divisions of the organization. Within them it is assumed that people are rational, and that roles are defined, allocated and carried out according to systems of rules and procedures. It is the culture that Weber (see earlier in this chapter) called 'bureaucratic' and Burns (see Chapter 2) 'mechanistic', and many large organizations which value stability and predictability are of this type: government administration, insurance corporations, organizations with a long history of success with one product or service, for example. Its strength is shown when tomorrow can be expected to be like yesterday; conversely its weakness is its slowness to recognize the need for strategic change and its inability to adapt.

The third type is the *task culture* of Athena, goddess of knowledge. In this culture, management is regarded as a series of problems to be solved. First define the problem, then allocate resources for its solution, including people, machines and money. The picture of the organization is a net because it draws resources from all parts of the system. It is a network of loosely linked matrix structures in which task

forces, working parties, ad hoc groups, and so on are brought together to achieve a particular goal. It is the culture that Burns (see Chapter 2) called 'organic' (or 'organismic'). It works well when flexibility is required because the organization's output is a series of solutions to particular problems; for example in consultancy companies, advertising agencies and R & D departments. But these cultures do not function well when repetition and predictability are required, or when low costs are a major factor in success.

The final type of organization is the *existential culture* presided over by Dionysus, god of wine and song. The key difference here is that, unlike the other types, where the individual is subordinate to the aims of the organization, in this type the organization exists to help in the achievement of the individual's aims. For example, groups of professionals such as doctors, lawyers or architects can come together to create an organization in order to share an office, a telephone or a secretary. In these organizations the individual professionals are supreme; they recognize no boss, although they may accept coordination from a committee of their peers. These organizations are so democratic that there are few sanctions available to administrators. Management, which is regarded as a chore, requires general consent, which leads to endless negotiation to obtain any coordinated effort.

There are no business or industrial organizations which operate completely with this last culture. But we are now witnessing an important change in the nature of organizations, in that they find it efficient to contract out more and more of their work to independent professionals. Organizations will therefore have to deal more and more with those who take a Dionysian view of the world.

This is only one of a number of changes that we are currently experiencing in regard to employment. They are not part of a predictable pattern, but are *discontinuous* changes in society. Such discontinuities happen from time to time in history. The change in the basis of economic activity from agriculture to industry was a previous example of this. The change now is from profitability based on machine power and brawn to profitability based on intelligence and professional skills. McKinsey, the management consultants, have estimated that, by the year 2000, 80 per cent of *all* jobs will require cerebral rather than manual skills, a complete reversal from 50 years earlier.

In this new situation, both the nature of work and the nature of organizations are changing. In general, people can no longer expect to work for the whole of their lives in one occupation, perhaps for one employer. Organizations can no longer afford the overheads of carrying large numbers of people who may only be wanted for part of the time. Instead, work must be reconceptualized in a much more flexible way as a 'portfolio of activities' based on professional knowledge and skill which an individual is able to offer to a number of organizations.

Handy uses the Irish national emblem, the shamrock, to characterize the ways in which people are linked to modern organizations. The *shamrock organization* has three parts to it: comparable to the three leaves which the clover-like shamrock has on each stem. Each part represents a different category of contribution to the organization made by separate groups of people who have differing expectations and who are managed and paid differently.

The first group is the *professional core* of qualified professionals, technicians and managers. They are people who are essential to the organization, owning the organizational knowledge which distinguishes it from its competitors. They are therefore hard to replace, and the organization pays them high salaries and offers fringe benefits. In return the organization wants commitment, hard work and long hours. They are managed in the task culture and are thus expected to be flexibly available to go anywhere at any time and do what is required. For this they are paid more and more. This means that they are expensive, and organizations look for ways to reduce their numbers. Downsizing has been characteristic of organizations in recent years, but output has gone up: half the number, paid twice as much, producing three times the output, appears to be the aim.

With a smaller core, more and more work is contracted out to specialists who can do it more efficiently and cheaply. So a *contractual fringe* has come into being and is taking a larger and larger proportion of the work. This is the second part of the shamrock. Manufacturing firms typically make fewer and fewer of the components of their products. They have become assemblers of parts manufactured by suppliers, hence the importance of Japanese just-in-time delivery systems. Organizations regularly contract out activities that were once regarded as a normal part of their work: advertising and market research, computing, catering, and so on. The contractual fringe is made up of individuals and organizations who are paid for the results achieved, that is, fees not wages, and this has great importance for the way in which they are managed. They are paid for output achieved, not for hours spent at work. But organizations are much more used to paying employees for time, and have to learn to manage the contractual relationship effectively across a very wide range of activities.

The third part of the organization is the *flexible labour force*. These are the part-time and temporary workers who are the fastest growing part of the employment market. As organizations wish both to increase their ability to respond to variations in demand and to improve profitability, they turn to this force to give them additional flexibility. Since people in this force are part-time or seasonal employees, there is a problem that employers may regard this part of the organization as merely casual labour, but if these workers are treated casually they will be casual in their attitudes to the organization and its outputs, which means that the standards aimed for will not be reached. They are managed in the Apollo role culture, and although they will never have the commitment of the core, they have to be treated fairly if they are to be adequate in their roles.

Along with the development of the shamrock organization has come another discontinuous change in the nature of authority in organizations, namely the emergence of the *federal organization*. This is more than just a decentralized organization, for the logic of that form implies that knowledge and power are at the top of the hierarchy and certain amounts of them are handed down to the component parts. In the federal organization the logic goes the other way, with the subsidiaries federating together to get benefits of scale, but where the drive and energy come mostly from the parts. The centre is small; it does not direct or control the activities of the parts, rather it advises and influences, only reserving to

itself a few key decisions, for example capital allocations and appointment of top executives. Its vital task is to give a vision which shapes and gives a point to the work of all the parts. Handy compares this form of organization to a university or college, where the top management group can have only limited understanding about the large range of teaching and research activities being carried out.

For federalism to work well, two key principles must be understood and practised. The first is *subsidiarity*: the principle that the larger and higher body should not exercise functions which can be carried out efficiently by smaller and lesser bodies. For those at the centre, this is a much more difficult concept to put into practice than it appears, because a considerable amount of trust and confidence is required. The centre cannot be sure if the subsidiary organization can carry out the function efficiently before it has actually done so. But, in a Catch-22 situation, if it uses this lack of experience as an argument against allowing them to try, then subsidiarity will never occur.

The second principle refers to those in the subsidiaries: they must want to increase the range of activities in their roles. Handy uses the analogy of the *inverted doughnut* to focus on the changing nature of organizational roles. A doughnut (or bagel) has a hole in the middle; the inverted doughnut is filled in the middle but the surround is empty up to the round contours of the edge. The core represents that part of the job which is fully prescribed, often in a job description, which, if not done well, will be seen as a clear failure on the part of the job occupant. But there will also be discretionary opportunities in a job, which no one has specified but which, if carried out effectively, will be regarded as showing appropriate initiative. These can fill the space up to the outside rim of the doughnut, which represents the boundaries of the discretion allowed in the job.

Traditionally, jobs in organizations have had large cores and small areas of discretion, as in an Apollo role culture. This allows control of the processes and of the behaviour of the people. In federal organizations, there are much smaller cores, since the exercise of discretion by subsidiary staff is crucial for subsidiarity to occur. These are more likely to be the task cultures of Athena. Controls can only be exercised after the event through 'management by results', and mistakes will inevitably occur. Managements have to learn to forgive mistakes and not always punish them, because this is how learning takes place.

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Christopher Bartlett and Sumantra Ghoshal

Christopher Bartlett and the late Sumantra Ghoshal (1948–2004) were business school academics who have studied the functioning of corporations which operate internationally. Bartlett is a professor at the Harvard Business School; Ghoshal was at the London Business School. Their research leads them to propose that a new type of organizational structure, with its concomitant distinctive managerial thinking, is required for success in the current global business environment.

Bartlett and Ghoshal maintain that the world's largest companies are in flux, as global pressures have forced them to rethink their traditional worldwide strategies. While some firms have prospered, most are struggling for survival. Even within particular industries big differences have been manifested in performance. For example, within the consumer electronics industry the Japanese Matsushita corporation has prospered, whereas the American General Electric was eventually forced to sell off its business in this sector. It is not just a matter of the Japanese being better at it than the Americans. In the soap and detergent market the American Proctor & Gamble was able to mount a major thrust into international markets, whereas the international efforts of Kao, the dominant Japanese competitor in this industry, have stalled.

The key is the organization's capability for effective international operations. This is a combination of its strategic posture, its organization structure and its attitude to learning and innovation. For each firm the particular characteristics of its organizational capability have been built up over previous decades in response to the problems faced. This administrative heritage is an organizational asset, but it has to be examined very carefully and questioned, since it is also a constraint in adapting to new global environmental demands.

In the 1980s three distinct types of cross-national firms, each with different capabilities, could be identified:

- multinational companies
- global companies
- international companies.

Multinational companies have developed a strategic posture and structure which allows them to be very sensitive to differences in national environments. Their key capability is *responsiveness*. They build a strong local presence by responding

to local market opportunities and are prepared to vary their products and even their businesses as necessary in the different countries. Firms such as the Anglo-Dutch Unilever and the American ITT were pioneers in developing links to each host country's infrastructure and thus creating conglomerates. These are relatively decentralized confederations with distributed resources and responsibilities. The control exercised may be limited to little more than the supervision of financial results.

Global companies are those which are driven by the need for common global operations, and are thus much more centralized in their strategic and operational decisions. Their key capability is *efficiency*. They obtain cost advantages through building world-scale facilities to distribute standard products to markets everywhere. It is a form pioneered in the motor industry by Ford, and is the approach taken by many Japanese companies such as Matsushita and Toyota. The centre retains strong control in decision making, and foreign operations are seen as delivery mechanisms to global markets. Products and strategies are developed to exploit what is regarded as a worldwide unitary market.

International companies base their strategy primarily on transferring and adapting the parent company's knowledge and expertise to foreign markets. Their key capability is *transfer of learning*. The parent company retains considerable influence, but local units can adapt products and ideas coming from the centre. Firms such as the American IBM and the Swedish Ericsson run a 'coordinated federation' in which the subsidiaries have more autonomy than in the global company but less than in the multinational firm. Particular functions such as R & D product and market development and finance are kept close to the centre. So there is a degree of benefit in both responsiveness to local markets and integrated global development.

Within the last decade, because of the turbulence of the global environment, none of these three types of structure and its accompanying capability has been adequate for success. For example, customers are demanding differentiated products as provided by the multinational company, but with the same high quality and low costs as standard products provided by the global company. There are also frequent changes in economic, technological, political and social environments which require the firm to be readily responsive. But, in addition, the organization has to build in the capability to continue to be responsive to the inevitable changes that occur in tastes, technologies, exchange rates and so on.

A new form of organization has been emerging to cope with this complex and changing global situation. It does not demand responsiveness or efficiency or learning as the key capability, but requires all three to be achieved simultaneously. This is the *transnational* form of organization, in which managers accept that each of the three previous types is partially true and has its own merits, but none represents the whole truth. Bartlett and Ghoshal put forward the transnational organization concept as a managerial sophisticated ideal type towards which cross-national organizations will have to develop in order to obtain and retain global competitiveness.

In the transnational company there is developed an *integrated network* structure in which neither centralization nor decentralization is embraced as a principle, but

selective decisions about location and authority have to be made. Certain activities may be best centralized within the home country (for example basic research, treasury function) but others are best concentrated in certain subsidiaries (for example component production in low-wage economies, technical development in countries with a technically sophisticated infrastructure) while yet others are decentralized to many national operations (for example differentiated product assembly, sales). So, for example, an American transnational may obtain the benefits of world-scale production for labour-intensive products by building in a low-wage economy like Mexico, while obtaining the benefits of producing technically sophisticated products in Germany, and assembling both in Britain for the European market. Thus there is a considerable degree of functional and national specialization, which requires the interdependencies to be well managed. Frequently these interdependencies are designed to build self-enforcing cooperation among different units, such as when the French subsidiary depends on Spain for one range of products, while the Spanish one depends on France for another.

The transnational organization requires a distinctively different approach from previous forms of international operations. Its management has the key task of developing a set of strategic capabilities and relevant organizational characteristics, as shown in the table.

To obtain global competitiveness with the transnational's dispersed and interdependent assets and resources requires balancing diverse capabilities and perspectives. As Crozier (see Chapter 5) and Hickson (see Chapter 1) have shown, the group that copes with the most critical strategic tasks of the organization gains power. So, for example, in Unilever (a multinational company), it was the geographic managers who became dominant, because their contribution was crucial to achieving the dispersed responsiveness required. But in Matsushita (a global company) it was the product division managers who dominated, since they were the key to the company's world-scale efficiency. In IBM (an international company) the strong technical and marketing groups retained their power through all reorganizations, since they were the basis of the company's strategy of building and transferring its core competencies for worldwide learning. The transnational company, however, must develop a multidimensional organization structure that legitimizes diversity and eliminates any bias that favours the management of any particular function, product or geographical area.

Similarly, the transnational needs to develop flexible coordination processes among the highly specialized and differentiated roles of its subsidiaries. It cannot rely on one preferred way of obtaining control. The preferred American way of a formalized control system (for example, as in ITT), the preferred Japanese way of a centralized decision-making structure (for example as in Kao), the preferred European way of a socialization process for instilling a common culture (for example as in Unilever) are all inadequate by themselves for the transnational. This requires a portfolio of highly flexible coordination processes calling on all these approaches. These are used in appropriate ways for different types of national subsidiaries.

Building and Managing the Transnational Company

<i>Strategic capability</i>	<i>Organizational characteristics</i>	<i>Management tasks</i>
Global competitiveness	Dispersed and interdependent assets and resources	Legitimizing diverse perspectives and capabilities
Multinational flexibility	Differentiated and specialized subsidiary roles	Developing multiple and flexible coordination processes
Worldwide learning	Joint development and worldwide sharing of knowledge	Building shared vision and individual commitment

Source: Bartlett and Ghoshal (1989).

One type of national subsidiary may act as a *strategic leader* in a particular product market. For example, the Phillips subsidiary in the UK is the lead company for the whole corporation in the teletext market. The dominant approach to coordination in this case is the process of socialization. Another type of subsidiary may act in a *contributor* role. This type has a good local resource capability but is operating in a market of limited strategic importance. An example is Ericsson's Australian subsidiary, which made important contributions to the development of its telephone-switching business, but whose home market is limited. It therefore has to be developed to contribute more widely to international operations. In this case direct headquarters coordination is appropriate. A further type of national subsidiary is the *implementer*, which carries out the corporation's operations in a market of limited potential. For example, Proctor & Gamble created teams to develop Euro brands which could be marketed on a coordinated European basis. This required its subsidiaries in various European countries to refrain from modifying the formula, changing the packaging or adjusting the advertising approach in order for the company to obtain efficiencies of scale. This implementer type of subsidiary is coordinated by formalized systems, which require the least corporate management time.

The internal differentiation both of subsidiary company roles and of types of coordination processes – which may change from issue to issue – can lead to severe conflict in a transnational. The need for worldwide sharing of knowledge can cause difficulties too. Therefore a final key task of the central management is the need to unify the organization through a shared corporate vision. This requires clarity, continuity and consistency of purpose. Transnational organizations have to work to establish and communicate these attributes if they are to form the basis for the generation of individual commitment. It requires, among other things, a sophisticated human resource management system, which pays particular attention

to training and development and to career management in an international setting.

Bartlett and Ghoshal are very clear that the complex transnational structure is not just a more sophisticated matrix structure. It is much more than that, since a new management mindset is needed to understand the multidimensional nature of the tasks and to be prepared to interact openly and flexibly with others on them. As they put it: 'The task is not to build a sophisticated matrix structure, but to create a "matrix in the minds of managers".'

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Stewart Clegg

Stewart Clegg was born and educated in England, studying at the Universities of Aston and Bradford, but has spent most of his academic career at universities in Australia. He is currently Professor of Management at the University of Technology, Sydney, where he is also Director of the Research Centre for Innovative Collaborations, Alliances and Networks. His steady stream of research papers and books (several of the earlier ones in collaboration with David Dunkerley, now of the University of Glamorgan) have established him as a major contributor to what is referred to as 'post-modern' organization theory.

The key concern of Clegg in all of his writing is the exercise of power in organizations. He maintains that the use of power is central to the processes of organization and calls on the work of a very wide range of philosophers, political scientists, economists and sociologists to illuminate its workings. Starting from a neo-Marxist approach, Clegg distinguishes between two forms of the exercise of power: 'domination by coercion' and 'domination by hegemony'. Domination by coercion is the form of power that, say, an owner of a firm may exercise over an employee by saying: 'Either you will do what I say, or I will sack you.' It is based on coercion which in the capitalist economic system is legitimized by ownership of the means of production. Thus owners, or their representatives, the managers, have power *over* employees. This power is not limitless. It is subject to the laws of the state, the opposing power of trades unions and so on.

But people exercise power in more ways than by giving orders to those who wish to disobey them. Much of the time power does not have to be used in order to be felt; just the capacity for its use may be sufficient. Indeed the most powerful people are those who never need to give any orders, because their known potential for power ensures that what they want happens and what they oppose does not happen. This form of the exercise of power is referred to as domination by hegemony or 'so®' domination. It is the commonest way in which power is exercised.

With the development of large-scale, modern organizations domination by coercion of the owner-managers has become infeasible and domination by hegemonic power has largely replaced it. The authority may come from ownership, but it is the hierarchical structure and rules of correct procedure of bureaucratic organizations which ensures that directions from those at the top are carried out as Weber noted (see earlier in this chapter). The bureaucratic structure provides the ground rules for the exercise of power. In these organizations following a procedural rule demonstrates the same exercise of power as obeying an order.

From the power perspective organizational structures are not neutral systems of authority, rationally established to be efficient in achieving the organization's goals. Organizations do not have goals: only people have goals. Structures are 'sedimented' decision rules that is, rules that have been historically laid down to overcome opposition and resistance. They have been imposed by those exercising power, and are organized in such a way as to maintain that power. They establish that the powerful's goals are regarded as legitimate and equate to those of the organization. The goals of the unpowerful are regarded as illegitimate and are characterized as resistance which therefore needs to be overcome. A common conception is to regard the organization as a system and then, using an engineering analogy, to regard resistance in the system as bad.

Organizations develop a number of technical rules (for example work study, see Taylor in Chapter 4), social-regulative rules (for example incentive schemes, human relations policies, see Mayo in Chapter 6) and strategic rules (for example pursue vertical integration, engage in mass advertising), all of which provide a rational justification for the hegemonic social domination of ownership in capitalism. Work study, in particular, performed the historical role of ushering in mass production with its deskilling of workers and their consequent disempowerment.

Power is inherent in these 'rules of the game'. The rules both enable and constrain action. They have to be interpreted and the discretion this inevitably affords gives opportunities for competition for power. In modern organizations with their large range of functional and professional specialists, hierarchical power by itself is inadequate to exercise all the control that is necessary. Other forms of control by non-owners develop, based on their strategic position in the organization (see Hickson earlier in this chapter). Accountants, marketers, IT specialists strive for power for their specialisms based on interpretations of the rules which are favourable to them. So organizations may be conceived of as arenas within which various sub-groups compete for resources and power (see Pettigrew, Chapter 7). But they are only legitimized to act within the rules laid down by the owners of the organization. It would not be regarded as legitimate, for example, for an IT specialist group to boycott a particular department or product as part of its campaign for more resources and power. This sets strict limits to the non-capitalists' exercise of power.

But at the present time such 'modernist' organizations with rigid bureaucracy, extreme differentiation of roles and strong hierarchical control are failing to achieve the capitalist goal of profit. Growth in productivity has slowed down because rationalization on Taylorist work-study principles is reaching its limits. With increasing globalization the relation between the head office centre and the far-flung operating subsidiaries cannot remain one of total hegemonic control. Other ways of exercising power have to be developed which are not stifled by hierarchy. This does not mean the abolition of hierarchy. There will always be a differential of knowledge, skill or capital by those contributing to the performance of any complex task which will lead to differences in power. But it would be a listening power, using the hierarchy to be receptive to the views of those lower down rather than to screen them out.

This new use of hierarchy is a key part of the postmodern organization. 'Where modernist organization is rigid, postmodern organization is flexible.' Modernist organizations create highly differentiated deskilled jobs, but jobs in postmodern organizations are de-differentiated and multi-skilled. Modernist organizations are procedurally tightly controlled even though as they increase in size, bureaucratic rigidities hamper their performance more and more. Postmodern organizational forms, on the other hand, emphasize flexibility through contracting out, alliances and networking.

The differences between modernist and postmodern organizations are summarized in the table below. It shows a number of distinctive dimensions along which organizations can differ thus demonstrating their progress towards postmodernity. Postmodern organizations are more democratic, people are more empowered, the skills required are more flexible. The rewards given for good performance are less targeted at individuals but are more collectivized, being aimed at group achievement. Leadership is based less on mistrust in subordinates leading to increasing control, and more on trust in them leading to greater autonomy. There is also a comparable change with regard to outputs. Where modernist organizations cater to mass forms of consumption, postmodern organizations provide for consumer niches.

	<i>Modernity</i>		<i>Postmodernity</i>
1. Mission goals, strategies and main functions	specialization	←-----→	diffusion
2. Functional alignments	bureaucracy	←-----→	democracy
	hierarchy	←-----→	market
3. Coordination and control in organizations	disempowerment	←-----→	empowerment
	around organizations		
	laissez-faire	←-----→	industry policy
4. Accountability and role relationships	extra-organizational	←-----→	intra-organizational
	skill formation		
	inflexible	←-----→	flexible
5. Planning and communication	short-term techniques	←-----→	long-term techniques
6. Relation of performance and reward	individualized	←-----→	collectivized
7. Leadership	Mistrust	←-----→	Trust

Source: Clegg 1990.

While few enterprises can now be said to be postmodern already, Clegg sees signs of such organization in Asian industries, French bread production and Italian fashions. He argues that it is facile to say that the cultures of Japan, France and Italy are different so the distinctive organizations which occurred in those countries will not flourish in other cultures. Indeed the common characteristic which is found in those very different national settings is that organizational units are not bound together in a controlling bureaucracy but are linked in a functioning network.

Thus in Japan the basic economic unit is not the firm but the enterprise grouping that is, the interrelated network of firms to which each individual enterprise belongs. This may be within one industry where a large firm will have a series of long-term agreements with a number of smaller suppliers. Or it may be across industries where firms unrelated in production are interconnected financially by a bank or trading company. In both cases the network provides stability. In Korea, it is family ownership and management which provides the glue to keep the network, known as a *chaebol*, functioning (see Whitley, Chapter 2).

Networking is also the key to the operation of the French bread industry. France is distinctive in that the mass produced and packaged 'industrial bread', which is common in western countries, has only a very small proportion of the market there. This is because of the very large number of small local bakeries, each with its own shop, which provide *baguettes*, a much more popular fresh loaf. They have survived because they are all family enterprises linked together in a network, *Le Syndicat de la Boulangerie*, which has enabled them to maintain flour supplies even in difficult circumstances. Similarly Benetton, the Italian fashion wear company, is a network of networks. Its main production facility is supplemented by a network of suppliers, while all its sales outlets are franchised, forming a network of individually owned shops.

Networking is a postmodern form of organization because it is not a one-way ordering of domination and resistance between those who have power and those who do not. As Clegg sees it, moving away from his neo-Marxist roots, to regard power as the property of one group based on ownership rights is to 'reify' the phenomenon that is, to regard it as real in itself. But power can only be manifested in 'circuits of power' which flow from the interplay of reciprocal relationships. In the organizational network these circuits carry the episodes of continuing negotiation and renegotiation by the participating agents, which form the power relationship. These relationships can be those of domination and resistance, but they need not be so.

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