COMMENTARY—Company Structure and Industrial Relations

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IN the conclusions to Research Paper 3 of the Donovan Commission the author, Alan Fox, wrote "Behaviour in industrial situations is to a considerable extent moulded by the particular pattern of social organisation that has evolved. . . . industrial relations behaviour often owes more to 'the structure of the situation' than to personalities or to the parties 'choosing' to 'behave badly'. . . . where the aim is to change undesirable behaviour, the imposition of punitive sanctions alone is unlikely to succeed. The structural determinants which produced the behaviour must themselves be changed".

Most behavioural scientists would endorse this statement. And it is in this context that some of the points made by Dr. Donald Schon in the 1970 Reith lectures are of special interest to all who deal with human relations in industry. Among other things Donald Schon analyses recent trends in the evolution of business undertakings, including changes in organisational structure, and comes to some very interesting conclusions about the creative role that business undertakings play in modern society.

Essential to Schon's thinking is the conviction that "we are living in a time of loss of the stable state". How to adapt to these conditions therefore becomes the central social question of our time. Schon believes that "organisations and institutions which are dynamically conservative: that is to say, they fight like mad to remain the same" are specially fitted for this learning role, and in this respect he believes the business undertaking to be without peer.

THE TRADITIONAL FIRM

Donald Schon developed these ideas in detail in the third and fourth lectures. "The classical business firm" he says, "the business firm of the first decades of this century—was a firm based on the concept of the product as its defining unit. It had the shape of a pyramid . . . and
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incorporated the invention of functionalism. . . . The pyramid structure, the functional breakdown and the definition around product make up the concept of the classical business firm”.

Schon holds that the development of cartels and holding companies and large financial agglomerations of firms in the period around World War One did not substantially change the inherent character of the firm, but re-assembled it in new kinds of order, with increases in size and financial holdings. But he goes on: “The critical point of transition with respect to the character of the firm was World War Two, and here, it seems to me, we made some shifts. One of these was from the concept of a static product line to that of product diversification. . . . one was a movement towards process as the central and defining idea of the company. And one was the notion of technological innovation as a major and continuing function of the firm. . . . We began by thinking that product innovation was a tool we could use for our own purposes, and we soon discovered that if it is made central to the company it transforms the notion of what a business is, and you take it in at your peril. But if you don’t take it in you may not be there at all”.

Schon also points to three other post World War Two phenomena that he believes to have had a decisive influence on the evolution of business undertakings. The first was the increasingly important role of research, or at least the myth of its importance! The second was the ideology of growth, that “not only was it good and important to grow, but that without growth one was in some danger of not being able to say one was a success at all”. And the third phenomenon, the saturation of traditional markets, was a direct outcome of the growth ideology. To stay alive a company has to be market, rather than product, oriented—to be concerned, as Schon puts it “not just with shoes, but with footwear. It shouldn’t be with cash registers but with information processing and it shouldn’t be with nails but with fasteners”.

Constellations

Far from every firm has been changed by these ideas, or even heard of them. The relatively simple product-based firm with the traditional pyramid organisational structure is almost certainly still in the majority. But the consequences for undertakings which were influenced by these,
on the face of it, innocuous propositions, plus the impact of new technologies, were in fact profound. Schon cites the case of a company, for whom he had acted as a consultant, that became market-oriented and increasingly research-based, and set up a series of quasi-autonomous subsidiaries to handle the new products it developed for its vastly expanded and changed market. "Instead of being a pyramid defined around the product, it began to be a constellation of quasi-autonomous firms surrounding a bank and a development facility", with all the many consequential changes in structure, human relationships, and managerial attitudes that this involved.

Schon observes that the Constellation Firm "... has a kind of adaptiveness that most firms do not have. If you are in business surrounding a bank and a development facility and one of the businesses begins to do badly, you can just kill it off, because by getting rid of it you are not touching anything that's central to the nucleus of the firm or to other divisions. It's also possible to grow new satellites, so that there's an organic quality to the constellation firm that other sorts of business organisation do not have". And he concludes: "The constellation firm is produced and encouraged in the first instance, by the growth of the research ideology, then by the saturation of markets that causes firms to branch out into new areas, and thirdly, by the response of firms to invasions from strange technological fields that make them develop satellites around technologies which they had not known before. The result is an adaptive entity that is new to the market, new to the concept of what a business is".

"Mechanistic" and "Organic" Systems

This analysis has some interesting parallels with the suggestions of Tom Burns and G. M. Stalker of Edinburgh University who have identified two distinct types of industrial organisation. One they describe as "mechanistic", adapted to relatively stable conditions, and the other "organic", adapted to conditions of change. Their "mechanistic" category is strikingly similar to Donald Schon's traditional product defined concern and is characterised by clear functional divisions and a hierarchic or pyramid structure of authority, control and communication. The "organic" system is more adaptable, people contribute their knowledge and experience to the common task rather than sticking to their
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functional specialisation, and communication takes on the character of consultation rather than the delivery and reception of information and orders.

This description of the "organic" type of organisation is clearly analogous to that of the constellation firm. It also anticipates what is, according to Schon, the current phase in the evolutionary development of the business firm, or more accurately what some undertakings may become. This phase is not yet completed, but Schon believes it will develop as he anticipates.

THE MATRIX ORGANISATION

Using NASA as his model Schon describes how the resources are organised in fairly conventional ways under an administrator and associated deputy administrators. "Reporting to that group of associated administrators was an in-house administration consisting of laboratories, such as the ones in Houston and Boston, and a ring of contractors that reported to the laboratories in a variety of ways. But cutting across those resources was a project organisation. This project organisation had names in it like Apollo. Each of those projects had a finite life-cycle to it and had to be defined in terms of a goal whose performance criteria were quite clearly set out. Each project had a head. Each project had a set of subordinate projects with names like Propulsion, Antenna System, Life-Support Systems. A matrix emerged which can be presented in the form of a diagram on which the project appears along one axis and the resources along another".

Says Schon: "The feature about the matrix that is important is that from the point of view of any project . . . the number of people from different disciplines and backgrounds that one must pull together is very great. But the project has a limited life and those people will return to their resource bases, their competence pools, once they are done". He goes on: "The management of that operation is quite a complex business, and most of the standard rules of management practice must go down the drain. For example, everybody knows that one can only have one boss. Correct? But in a matrix organisation one has at least two and usually three or four or five. The span of control has got to be enormous. Issues like human relations, trust, people understanding one another—which we used to think of as the frills of a business organisation—now become
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absolutely central. When TRW Systems was running the Minuteman project, the heads of each of the resource pools and of the project group met together for an hour at eight o’clock every morning every day of the week. Not because they were nice fellows or thought that human relations were a good thing, but because the informational complexity of running a matrix was so great that without that sort of meeting they couldn’t manage at all”.

Organisation and Relationships

The effect of different types of organisational and technological arrangements on human behaviour and attitudes is a relatively unexplored area of industrial relations. The concluding paragraph in Alan Fox’s research paper calls both for more research and communication of its results to management and trade unions. But some research has been done and indicative evidence does exist. In a study of over one hundred firms in south Essex, Joan Woodward¹ showed that particular types of manufacturing system—unit; once off; large batch; mass production; process; and continuous flow each had their own quite specific management and supervisory structures. Variations included the number of levels of management and supervision, the ratio of supervisory to operative personnel, and spans of control. Technology clearly shaped organisation structure. Each pattern of organisation had its effect on human relationships. Relations were better and easier in unit and process production compared with large batch and mass production. This was partly due to smaller spans of control and size of primary working groups in unit and process production. In this sample, process technology also appeared to give rise to less tension than mass production technology.

In an American study of behaviour in some three hundred working groups covering a wide range of manufacturing industry L. R. Sayles² concluded that “the attitudes of employees were a product of the structural conditions of work”. He found a clear relationship between technological/engineering factors, work flow arrangements and the division of labour on the one hand, and the types of relationship and attitude within and between groups on the other, particularly over the way groups acted in relation to grievances.

² L. R. Sayles, Behaviour of Industrial Work Groups.
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E. L. Trist and his colleagues at the Tavistock Institute found a similarly close relationship in a number of pits in North Durham between the social structure of work groups under different technical conditions and such clearly measurable factors as output, absence, sickness and accident rates. When the small responsible and largely autonomous groups of miners handling all tasks at the coal face were broken up by partial mechanisation each of the three shifts were required to specialise in only one particular phase of the work cycle. In addition there was a formal division of labour based on one man, one task. This not only created problems of regulation and co-ordination, productivity was below potential, management-labour relations were poor, job satisfaction low and absence rates high.

Only when the researchers cut specialisation to the minimum, reintroduced a multi-skilled role and cut out the sharp division of task between shifts did relationships, productivity, job satisfaction, and absence and accident measures improve.

Similar trends have been noted in productivity bargaining and job enrichment experiments. Greater variation and rotation of tasks, increased responsibility at the work place and less regulation from above, more flexible procedures, increased consultation, and in general a more "organic" and less "mechanistic" organisation structure seem to have paid dividends both in productivity and human satisfaction. There is not only an accumulation of evidence to support the thesis that structural technological and organisational factors play a large part in determining the human relations situation. We are beginning to discover some of the human requirements of successful workplace organisation.

In the past attempts to adjust technology and organisation structures to suit human needs and capacities have been rare. The result has been alienation and the inhibition of human development. Today a new balance must be found. Whether Donald Schon's analysis is right or not, the trends to which he has drawn attention will need careful watching to ensure that the structures of business undertakings allow a more humane balance to be struck in the future than in the past.