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SOCIOLOGY FOR INDUSTRY?
A STUDY OF THE DIFFUSION AND USE OF
INDUSTRIAL SOCIOLOGY IN INDUSTRY

by

LESLEY ELIZABETH MACKAY

Thesis submitted in fulfilment of
the requirements for the degree of
Doctor of Philosophy, in the
Department of Sociology and Social
Policy, University of Durham



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Lesley Elizabeth Mackay

ABSTRACT

The thesis considers the argument that industrial sociologists have acted as "servants of power". In order to examine this, the diffusion and use of a specific idea - autonomous work groups - was investigated. On examining the origin and potentials of the concept, it was concluded that the idea of autonomous work groups was potentially radical for the organisation of work. Much attention was found to have been devoted to the autonomous work group in publications, but the notion tended to be de-radicalised. The ways in which this (and similar ideas) reach managers in industry were examined through the activities of 'linkers' - journalists, information-giving organisations, consultants (both academic and commercial), industrial training boards and authors. The mechanics and factors influencing the diffusion of ideas to industry were examined through the study of a specific industry: brewing. It was found that managers neither highly rated, nor actively sought, ideas emanating from industrial sociologists; indeed, they were often antagonistic. Academics were seldom found to have any obvious role in the diffusion of industrial sociology to those in industry. Industrial sociologists are not 'servants of power': the notion is both too simplistic and naive. It is in the nature of our society that the presentation of ideas enhances the existing social order.

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Introduction

INTRODUCTION

"Many industrial social scientists have put themselves on auction. The power elites of America, especially the industrial elite, have bought their services, which, when applied to areas of relative power, have restricted the freedom of millions of workers."

(Baritz, 1960, p.209)

Thus, Loren Baritz claims that industrial social scientists have acted as 'Servants of Power'. He is not alone in his assertions. A variety of vociferous voices have added volume to the cries criticising the willingness of sociologists in general to accept and even underpin the prevailing structures of power in capitalist society. Nicolaus, for instance, in 1968, in a now-famous speech said "Sociologists stand guard in the garrison and report to its masters on the movement of the occupied populace. The more adventurous sociologists don the disguise of the people and go out and mix with the peasants in the 'field', returning with books and articles that break the protective secrecy in which a subjugated population wraps itself, and make it more accessible to manipulation and control." (Nicolaus, 1972, p.39). Such stirring sentiments quickly elicit nodding heads from undergraduates, and it was as an undergraduate that I became interested in the issues surrounding the uses to which sociology is put. Quite convinced that industrial sociology in particular, and its practitioners were the henchmen, and women, of the powerful, I was later able to set out to study this in greater detail as a post-graduate. My aim was to gather ammunition to fire at the Establishment, to debunk the self-satisfaction and complacency of the comfortably placed, secure sociologists. The reality of industrial sociology in Britain was a little different. And the exploration of some aspects of that reality will be discussed in the pages that follow.



The Onset of the Problems

It didn't take long to encounter the first problems. These were crucially, to be found in Baritz's own analysis. His approach and analysis were both too simple and too general. Although there are undoubtedly some industrial sociologists who do act, and seek to act, as consultants to industrial enterprises, the majority of industrial sociologists do not, or do not in any obvious way. That does not mean that the products of their labours are not of use to an industrial elite, merely that service if it does take place, is more subtle. It may exist, for example, by virtue of the population which is chosen for study¹ or by the assumptions that are made;² or by bearing in mind the aims of those who have funded the research.³

Although service, no matter how subtle, takes place this gives no support to the claim that 'use' is made of such knowledge. Some, like Horton, would argue that "Like other workers in a capitalist society, intellectuals survive by producing commodities for exchange" (quoted in Shaw, 1975, p.41) - and by extension, that their product is of use. But if sociologists are producing a commodity for exchange, who is consuming it? What is it being exchanged for? How can such use be traced? Baritz by focussing on those industrial social scientists who do act as consultants, sidesteps the problems involved in looking at the processes by which knowledge is used. Rose points out that "imagery of the 'servant of power' type leads to superficial interpretations of the activities of sociologists under modern conditions." (Rose, 1978, p.171). This comment should, however, be extended also to cover the uses that are made of the knowledge produced by sociologists. Not all use is direct.⁴ And not all use is obvious, or even traceable. It is not even possible for the researcher to control "the parts of his work that will be selected for scrutiny, criticism

and development." (Shipman, 1976, p.142). And, by the time knowledge has been 'picked over', the aspects which gain prominence may, after a little while, bear little relation to the original presentation. By extension, to locate the precise origin of any idea is impossible. The innumerable processes of translation and selection; that ideas are anyway seldom entirely new; the operation of serendipity, etc. also mean that any attribution of influence is at best dubious.

At the same time, much of the knowledge produced by academics is virtually unusable by non-academics whether due to jargon, writing style, approach or presentation. If some translation is necessary, who does it? Is it the industrial sociologist, or is it someone else? If it is not the industrial sociologist who seeks to make his work of use to an industrial elite, the charges of 'service' become much weaker than those which Baritz sought to make. How is the output of industrial sociologists used? Is it used? who uses it? By focussing on consultancy, more important facets of service and use may be overlooked. Similarly, by looking at the obvious uses of industrial sociology, the impact it makes may be substantially underrated.

Any claims that those incharge of industry seize with alacrity the findings of industrial social scientists are dubious. At a popular knowledge level, managers of industry are held to be extremely sceptical of social science and social scientists. This asserted antagonism, of course, may reflect a lip-service being paid to traditionally held views while the reality differs. However, Baritz himself noted "the single most important obstacle in the way of an easy interchange between managers and social scientists came from the managers themselves. The deep conviction that success proves worth and ability - the survival of the fittest - led many managers to believe that they were themselves most competent to deal with

any problems of their organisation." (Baritz, 1960, p.18). It may be that in the U.K. this philosophy still prevails. How much do we really know about the views of those in industry on social science? Claims regarding the interest of industrial managers in the social sciences ought to be tempered with caution for another reason. Baritz refers to an 'industrial elite' who are concerned to use the services and findings of industrial social science. But who are the members of this elite? Only large firms, or firms with an advanced technology, or firms in a buoyant market sector, or what? Aris suggests, for instance, that "behavioural scientists have made most headway in huge bureaucratic concerns" which are trying "to give themselves a human face" (Aris, 1971). Cherns on the other hand asserts that social science activity is confined to: (a) very large firms.... (b) firms in science based industries.... (c) firms under American control or dominance, and (d) firms with young alert management with business school or university based management education." (Cherns, 1970, p.17). Further information is required here. Baritz's claims are not detailed enough as his analysis does not enable us to identify the type of organisation which will seek to use industrial social scientists.

Thus, there are problems not only in how industrial social science is used, but also who would seek to use it. However, although Baritz's analysis may be too simple and too general, it does highlight some aspects of the production of knowledge which may critically affect the potential use of industrial sociology. Thus, for instance, it may be that industrial sociology is of greater use to some sections of society than others, or be more accessible to some sections of society than others. Again, the focus of research is a criticism which has been made by Baritz and many others for a number of years - from both sides of the Atlantic. In America: "Prison research has for the most part been oriented to problems of jailers rather

than those of prisoners; industrial research, to the problems of managers rather than those of workers; military research, to the problems of generals rather than those of privates." (Becker & Horowitz, 1972, p.48). And, in slightly less colourful terms, from Britain: "Within industrial research itself, it can certainly be shown that biases have been present and that workers have received more attention than management, firms more than trade unions and employers associations, and industrial organisations themselves more than the relations between industry and community...." (Scott, 1959, p.198)⁵

There is little doubt that industrial sociology has been skewed in its focus in the past. Whether or not this is still the case is debateable. Rose points out in relation to France that "potential demand upon the management side for intervention could not become effective because of the lack of trained sociologists ready to adopt a managerial perspective." (Rose, 1977, p.24). Nevertheless, as de Grazia pragmatically points out "The giant corporations and the military forces can, as Mills asserts, find an ample supply of applied social scientists, but so can the CIO-AFL, the Socialist Party, the American Friends Service Committee and the NAACP." (de Grazia, 1961, p.11). Even if it is conceded that most U.K. industrial sociologists are now unwilling to adopt a managerial perspective, this is only part of the problem because the focus of industrial sociologists' research activities has remained the shop floor rather than the board room. For whatever reasons, industrial sociologists continue to look down, not up. There are not so many studies which have given those on the shop floor, in the sentiments of Nicolaus, the knowledge to predict, manipulate and control the actions of management. Studies of the activities of management seem to be mainly undertaken by those who are, or will end up in, business schools, management centres and business studies departments. And they are

studies which are not perhaps as critical of the prevailing social order as might be wished.

Of course, research conducted to help only one sector of society, whether management or labour, no matter whether to redress imbalance or whatever, is open to the same charges of bias, of weighting knowledge in favour of one group's objectives, etc. Questions emerge here about the approach which should be taken to research and the role of the sociologist - should it be solely a scholarly activity whose findings may be later, and quite separately, acted upon. as Dahrendorf for instance suggests (Dahrendorf, 1973); or is value freedom a myth and the researcher ought to be morally committed as Gouldner would suggest (Gouldner, 1970). Ought the sociologist to be socially responsible for the consequences of his work, or to leave action to others? These and other issues regarding the 'proper' use of industrial sociology have been well argued by a number of commentators and there is little need therefore to rehearse them again here.⁶ Nevertheless, it can be asked that no matter what precautions are taken "Is it at all possible to conduct the most 'basic' and 'non-applied' research using real world events as data without SOME risk of the results being taken over and used by 'bad guys'." (Boguslaw, 1967, p.116, emphasis in original).

Other criticisms of sociology can and have been made - the selecting of 'safe' topics for research, that is, topics which are unlikely to have politically disturbing results (Ingleby, 1972); or, that "industrial social science has followed a primarily technical orientation" (Child, 1969, p.206); of bias not only in the scope and orientation of the research and researcher but the biases of omission, shortsightedness and conservatism (Krupp, 1961, p.38); and "theoretical myopia" (Myrdal, 1958, p.175). These concerns are not self-indulgent navel-gazing by armchair sociologists but they are issues which may fundamentally affect the product of sociology. For example,

"Ideology, then, may intertwine in the theory that has tamed observations, in the limits that have been observed, in the choice of possibilities that has been made, in the abstraction of timeless relationships from historical circumstances, and in the scope and selectivity patterns that have circumscribed a theory." (Myrdal, 1958, p.169). Similarly the directions which previous research gives to later work may be critical given that "In the case of industrial sociology.... the historical record is a grim one." (Rose, 1978, p.7).

Another important criticism of industrial social science made by Baritz and others relates to the funding of research. Again the implications for research in this respect have been well discussed elsewhere.⁷ Industrial sociology of course, is particularly vulnerable in this respect: "industrial research is in general the main field of 'privately' sponsored social science activity, the vast majority of other research being sponsored by state or public bodies." (Shaw, 1975, p.16). The concern with sources of funds is important if only because "almost everyone" does sponsored research "since none of us have the resources to finance our own research." (Bailey, 1970, p.1) and as Orlans appositely reminds us "Money does not come free." (Orlans, 1969, p.4).

However, whether or not one sees sociology as being "the flawed product of a flawed society" (Gouldner, 1970, p.14) the role of the sociologist, other than that of inactivity, may not be the most central in looking at the uses to which industrial sociology is put. It may be the product rather than the producers on which the focus ought to be placed. Can it be used? Is it used? Who uses it? How is it used?

For two reasons I decided to focus on the product and what happens to it rather than on the producers of knowledge per se. First of all after reading round the area regarding the activities of the sociological community and the influences on its functioning, it seemed an unrewarding area to study. Of course there are influences on the producers of knowledge - in this and every type of society - but that observation does not get us very far. It tells us very little about specific cases or societies and a lot about general influences which seem hard to pinpoint in practice.

It was the process through which sociologists' products were diffused which looked more rewarding to investigate. Remarkably little work had been done in the area and much of what had been done was sought to foster the diffusion of ideas into practice.⁸ Who are the people who translate, present, misrepresent and popularise the findings of sociologists? Why do they do it? How do they do it? Any attempts made by industrial sociologists to bring their work to a wider audience do not appear to be overly successful. There are no 'pet' sociologists of the media who spring to mind in relation to industry although there are a few in other fields. It is someone other than industrial sociologists who presents their findings. But who wants to hear those findings? Is there an audience? Who are they? How are they reached?

These and other questions directed both my reading and research. Reading round the area of diffusion - in which a great deal of work has been done in the U.S.A. particularly in the adoption of farming practices studied by rural sociologists - it became obvious that the focus had to be narrowed down. It was impossible to chart the influence of such a disparate subject as industrial sociology. But any theory or idea whose progress was to be charted would have to be (a) easily identifiable and distinguishable from

other current ideas or theories, (b) enjoy some measure of popularity, and (c) be within the scope of industrial sociology - at least when it was first presented.

There was a shortage of possible theories or ideas to choose from. Industrial sociology surprisingly, when you look more closely at it, is not all that popular! Or rather very few of the outpourings of industrial sociology have achieved any degree of popularity outside the academic sphere. However, an idea was finally chosen and it was that of autonomous work groups (AWGs). Easily identifiable and distinguishable from other ideas on the organisation of work because it emphasised the group rather than the individual. It enjoyed a great deal of popularity, even notoriety, through work in Norway and Sweden respectively. Although first presented by member of The Tavistock Institute of Human Relations rather than by researchers safely ensconced in the security of academia, the initial work on coal-mining had, according to Brown, an "almost complete research orientation (Brown, 1967, p.41). Of course, opinions may vary as to whether work carried out by the Tavistock comes within the scope of industrial sociology. In the immediate post-war years, the Tavistock and Liverpool University were the two notable bodies working in the area of industrial sociology according to Cox (1974, p.96) even though their early work "was mainly devoted to small scale consultancy research" (Cox, 1974, p.102). However, Brown states that "in terms of theoretical source and assumptions, methods of investigation, and personnel and organisation the Institute's work has been largely separate from the mainstream of industrial sociology in Britain." (Brown, 1967, p.35). Of course, separation from the mainstream does not mean that their work is not or has not come within the scope of industrial sociology.

Much of the problem in looking at the Tavistock work in retrospect is that the direction in which they proceeded is known, colouring previous work which was not so coloured at the time. Their tendency to focus more on the role of consultant change-makers rather than theoretical social scientists⁹ means that increasingly their work has not been seen as part of industrial sociology. Of course, at the same time the direction of industrial sociology can be seen to have changed over the years. Cox suggests "The history of industrial sociology in Britain is one of a gradual differentiation of a more wide-ranging and academic sociological interest from a narrower, consultancy based, applied management science." (1974, p.76). In other words, the focus of both Tavistock researches and industrial sociology have changed- but at the time the AWG idea was first presented there was some correspondence between the two. This is a problem that would be encountered in looking at the development of any idea over a couple of decades.

Because so little was known about the area, somewhat tentative steps had to be taken in order to identify the more important aspects of the diffusion process. Work done in other fields gave no real indication as to what were the important elements in the specific process of diffusion of AWGs. After careful deliberation it was decided firstly to look at the coverage which had been given to the topic of AWGs over the years. This had three purposes:

1. to find out how much and what kind of attention had been given to the idea;
2. to identify the people who were writing on the topic, and the most prominent among them; and
3. to discover the audience that was being reached.

(As to how the search was conducted, see the publications section.)

By analysing the hundreds of references which were obtained, it was possible to identify the publications and the authors who were the most prolific in the area. Thus, 'the linkers' - those who link the world of the production and consumption of knowledge - in the topic area were identified. Approaches were made to the most prominent publications and prolific authors, not one approach being rebuffed here. Through the conversations and interviews which resulted, an appreciation of the processes involved in diffusion was obtained. Other contacts and visits were suggested (and followed up); the mechanics of popularisation were considered and discussed; and their views of their audience aired. These in turn all helped identify the potential audience - those in the personnel function.

So far some aspects of the production and linking stages had been revealed as well as the potential audience - those in the personnel function. It was then necessary to focus on a more closely defined industrial audience. Many general claims regarding the use of social science in industry have been made but exceedingly little is known about industrial organisations' awareness, intake or use of the subject matter. Or, in turn, if industry and its preoccupation's affects the presentation, if not the production, of social science knowledge. But it was difficult to choose an industry:- whether to look at an industry in which there was likely to be the greatest use of social science such as in a high-technology, capital intensive industry, or to go for a less rarified, more typical industry where optimum conditions were not to be found. After some deliberation, the brewing industry was chosen for a number of reasons, the main one being that work on AWGs had been tried in the industry. (More detailed reasons for the choice of the brewing industry are given in the Brewing Section: p.1) Interviews in 24 brewing companies of varying sizes took place. From these it was possible to find out where managers and others get their information from and make

evaluations of their information scanning activities; their opinions and uses of the various sources; their training, opinions and uses of the social sciences, etc. At the same time the important as well as potential communicators of ideas and practices were identified - the consultants, the business and management organisations, etc. In turn, approaches were made to the most prominent and often-mentioned of these. So by looking at the area of consumption, it was possible to work backwards in the process of knowledge transmission to the linkers. In turn, the linkers were asked about their training and their opinions of the social sciences and social scientists, and their contacts with the latter; their perception of their audience, etc. In this way, it was hoped to get an overall picture of the prevailing climate of opinion of the social sciences. And to look, as Baritz suggests, at the "social use of knowledge" (1960, p.xi).

This procedure was not as haphazard as it might appear. Those people who had been identified as important linkers regarding AWGs were not necessarily the same as the linkers who reach an industry. By working from two directions - from production to the linkers and from consumption to the linkers, a much clearer overview of the area as to who and what type of linker was important at different stages in the diffusion process could be obtained.

Nevertheless the procedure was tentative - it was after all an exploratory study - and while the general approach was planned in advance, it has to be refined and redefined as the research and interviews progressed.

However, in looking at the problems and questions of use, and in this way, a number of issues remain unexplained. Why, for instance, do some and not other equally attractive ideas become popular? Why do there appear to be fashions in such an area? Can any predictions be made about the content or type of ideas that will become fashionable? Those people who had been

identified as in some way concerned with the role of linking were asked about these areas as well as questions regarding, for instance, what constituted for journalists a 'good' idea? In this way, it was hoped some insight into the popularisation process could be obtained. The data are only suggestive but they do open up avenues for speculation and possible further research.

Movement of fashions in ideas has been of interest to sociologists and others for decades. Marx held that "we must study both the concrete processes which give rise to various types of ideas together with the factors which determine which ideas come into prominence within a given society." (Giddens, 1971, p.41).

Various interpretations have been made of the origin of the ideas dominant in a society. Marx, for instance, held that "in class societies, the ruling ideas of any epoch are the ideas of the ruling class" (Giddens, 1971, p.42). Max Weber used the notion of 'elective affinity', thus relating ideas and interests. According to Gerth & Mills (1948, p.62): "Ideas, selected and reinterpreted from the original doctrine, do gain an affinity with the interest of certain members of special strata; if they do not gain such an affinity, they are abandoned. ... Both the ideas and their publics are seen as independent; by a selective process elements in both find their affinities." (Gerth and Mills, 1948, p.63). More recently and hedging his bets, Schon remarks "Whether ideas in good currency take the form of a system, or of a theme and variations, they unquestionably reveal, at any given time, a family resemblance which testifies to the overlapping and mutually interactive process by which they came to be.

At bottom, this family resemblance may stem from the environmental, technological, economic and class-related conditions of the society. We

cannot separate the theoretical dimension of a social system from its structure and culture." (Schon, 1971, p.141). Using the notion of a Zeitgeist or the 'spirit of the age', Schon does not say how the various aspects of society specifically affect ideas, or, by extension, how any predictions can be made. He is not alone - how can you recognise a ruling idea when you see one? At what stage can you say there is some affinity? - perhaps an idea is just about to be abandoned? One problem lies in trying to relate 'grand' theory to the smallness of everyday life. Are all ideas in a society interrelated or related to interests of special strata or ruling classes? Or is there no need for such a hegemonic view of society? Most commentators argue that some diversity can be tolerated in capitalist societies, but at what stage do ideas become threatening and how can this be predicted? It is a problem encountered but not resolved in many others' analyses. Rogers, for instance, notes "The elite are inclined to screen out innovations whose consequences threaten to disturb the status quo, for such disruption may lead to a loss of position for the elite. The 'dangerous' innovations are often those of a restructuring nature, rather than new ideas which will affect only the functioning of the system." (Rogers, 1971, p.340). But how can an elite tell what is going to be threatening, how can they know the possible ramifications of a new idea? How can any judgement be made by sociologists as well, regarding what constitutes a 'dangerous' innovation? How do the elite screen out innovations? An analysis may be possible in retrospect, as for instance, in John Elliott's "Conflict or Cooperation" (1978) of how an idea progresses and the influences upon its development, yet it would still appear impossible to make other than very general, and already voiced predictions.

Schon's notion of a family resemblance of ideas gives support to an important mechanism in the popularisation of ideas, a wish to avoid change. A graphic statement of this has been given by Simmel: "The highest classes, as everyone knows, are the most conservative and frequently enough they are even archaic. They dread every motion and change, not because they have an antipathy for the contents or because the latter are injurious to them, but simply because it is change and because they regard every modification of the whole, as suspicious and dangerous. No change can bring them additional power, and every change can give them something to fear, but nothing to hope for. The real variability of historical life is therefore vested in the middle classes..." (Simmel, 1957, p.555). Elites, according to this view, do not merely screen out the dangerous but would try to screen out all innovations. Thus it is forces of reaction against the new, which ensure that the prevailing or dominant ideas persist. But Simmel does not say anything about why or how certain ideas may displace others or come to fashion.

It is, I would argue, the notion of conservatism which may hold the key to many of these issues. Conservatism, not in a political or ideological sense, but conservatism as a defence of the existing state of affairs. In the face of challenge to the system or the organisation, the minimum amount of change necessary will be effected. It is a conservatism, then, which seeks to minimise disruption and it will affect not only the pace of change but the type of change which takes place. In this view, innovation occurs only under threat - from competitors, labour, government, etc. Change is not willingly sought. Change, however, takes place. The conditions under which organisations operate are constantly altering, and challenges to the organisation frequent. Adaptations and adjustments have to be made. But as Simmel points out, those at the top have everything to lose by change so

any adjustments will be minimised. 'Safe' innovations - those which have been tried and tested will be sought; unsafe innovations will be avoided, or if they cannot be avoided, adapted so that their potential disruptive effect can be weakened (many companies' reaction to the threatened implementation of the Bullock Committee proposals is a good example - one brewing company mentioned their reaction and action). Thus it is not revolution but evolution which is sought by those in control of organisations in an attempt to preserve their position and stability. Even amongst those who appear actively to seek change - the entrepreneurs, the managerial whiz-kids - that change is always within a framework. It is a framework of capitalism, of profits, of management's right to manage - it is not radical. In other words, their worldview informs the changes that are considered, somewhat on the lines of a Kuhnian paradigm. In turn, it can be argued that their innovations are only seen as such in the light of others' conservatism - innovations is, after all, only a relative term.

Thus, a number of packages have recently enjoyed favour with management: Action Centered Leadership, Leadership Trust, Coverdale, Communication Groups, Briefing Groups, Participative Practices. Yet some of these expensive packages have replaced others in the list in a number of companies. Differences have obviously been identified, and change felt to have been implemented in altering the package which the organisation subscribes to, yet to an onlooker the various packages are all variations on a theme: managers should lead yet communicate well with subordinates in order to lead effectively. Of course there are differences between the packages, but they are not great and hardly warrant the tag 'innovation' or even 'change'.

Similarly, an idea such as AWGs is neither new (although its recent presentation may have altered the emphasis on its various elements) - having been practised by workers in steel-making, docking and mining for many years; nor revolutionary, bearing remarkable similarity to human relations ideas of the 30s which have only recently achieved respectability in the eyes of some managers in this country. As Schon suggests: "Ideas are often slow to come into good currency; and, once in good currency and institutionalized, they are slow to fade away" and "even when an idea dies in a particular form, it may continue to influence succeeding ideas..." (Schon, 1971, p.138). Thus what have been acceptable ideas and which have not challenged the status quo help inform what ideas became prominent and simultaneously help prevent the insurgence of radical ideas.

Schon's notion of a family resemblance of ideas in good currency can be extended logically to include a family resemblance over time as well as at the present moment. Thus in any group of ideas enjoying popularity, some will precede and some follow others. Elements of one are found in another from which other elements will emerge and inform later ideas. It will not be simply a cluster of ideas, regrouped and re-arranged from time to time which will enjoy good currency but a number of ideas, some emerging, some fading. In this way change becomes manageable, it can be dealt with within the system, it requires no great shake-ups or fundamental alterations to the prevailing scheme of things. Obviously there are ruptures in societies which call for rapid and searching changes. War is an example. Yet when examining some changes resulting from such ruptures as Child has done in looking at the development of British Management Thought it can be seen that change is slow, ponderous and only an underlying trend.

This is not to suggest that revolutionary changes may not take place, but that rather the 'newness' of ideas may be a mirage. Of course, radical ideas may be accommodated and pose little threat to the status quo. Deviant views which fall outside the consensus are treated, according to Miliband "as curious heresies or, even more effectively, by treating them as irrelevant eccentricities ..." (1973, p.213). Part of this may be what Meyersohn and Katz comment on: "When a fad has reached full bloom, its distinguishing features become so blurred that some are totally lost." (1957, p.601). Similarly, Shawyer noted that the perception of an idea changes over time, becoming more respectable and safe. (1970, p.556). Whether this is due to habituation to the new idea, or an alteration of its distinguishing features is debateable. However, the focus here moves subtly from the ability of the producer to ideas to force change, to the ability of the ruling class/elite to incorporate or accommodate change.

As regards which ideas come into good currency, while it may not be irrelevant to question possible influences such as the 'political power of private capital' (Finer, 1971) which may affect what ideas gain favour, such aspects may be secondary. The conservative orientation of a ruling class and one which owns industrial organisations is one which is likely to be reflected in the goals and attitudes of managers (see Nichols, 1969). In turn this will be responded to in kind by those who service managers' needs. The conservative stance of management, the fear of uncontrollable change, is likely to be appreciated by those who seek the favour, patronage or ear of managers. Journalists who wish to reach, and to continue to reach, managers; organisations which wish to keep the interest and increase the number of their members, etc. In keeping therefore, with the orientations of those who call the tune, it is not the revolutionary but the tried and tested formulas which are presented. It is variations on a theme which are presented, unless and until some rupturing event occurs.

The explanatory concept here is conservatism. The conservatism of the ruling or capitalist class, the reflected conservatism of managers and in turn the conservatism of the linkers whose livelihood depends on maintaining the favour of managers. Thus ideas which are likely to find favour with management are those which are not radically different from the received ideas, those which have already passed through the sieve of acceptability.

There have been many suggestions as to how an elite may deal with change or threatened change, especially in the area of mass media studies.¹⁰

The concentration of ownership and control in the mass media (see Curran, 1977, p.224) - "Rather obviously, those who own and control the capitalist mass media are most likely to be men whose ideological dispositions run from soundly conservative to utterly reactionary..." (Miliband, 1973, p.204). The 'seeping down' of owners' preferences to editors or publications and programmes (Miliband, 1973, p.205); the weight and authority of tradition, as in the case of the BBC (Glasgow Univ. Media Group, 1976, p.83); the agenda-setting function of the mass media (McCombs & Shaw, 1972); the shared backgrounds of reporters and journalists - at least in the USA (Johnstone et al, 1976); the failure of the media to challenge the existing order (Lazarsfield & Merton, 1957) - "For these media not only continued to affirm the status quo, but in the same measure, they fail to raise essential questions about the structure of society." (Lazarsfield & Merton, 1957, p.465). Similarly, the avoidance of the distasteful, the re-stating of the universally accepted, the favouring of sanctified views; avoiding the controversial and re-echoing established values (Klapper, 1960, p.38); the pressures to conservatism and conformity from government and officials (Miliband, 1973, p.210). All these and other factors make up the jigsaw of how an elite - consciously or unconsciously resists the new.

Altogether then, the media - both paper and electronic - may easily function to maintain the status quo - whether due to the direct or indirect influence of the ruling class. It is possible that it is this same tendency to conservatism that goes furthest in explaining the type of ideas which become popular in industrial circles. However, there is unlikely to be any clear resolution of these issues here. Indeed it is my hope that more questions will be raised than answered. Exploratory research is exciting because it is is exploratory and hopefully, suggestive - opening, not closing off, avenues of enquiry.

But we need now to look more closely at the mechanisms which affect and influence the diffusion and use of ideas. We need to examine the contradiction between managers' accepted scorn and distrust for social science yet the plausibility of a 'servants of power' thesis regarding the products of social scientists. We need to investigate the content of social science being presented to managers and who is presenting it. We need to discover the way in which social science reaches managers. And we need to look more closely at the claims that industrial sociology has gained a substantial foothold in some parts of industry.¹¹

The thesis is set out as follows. Firstly, the research which has been conducted into the production, linking and consumption of ideas and practices will be considered in greater detail in an attempt to bring out some of the factors which potentially might affect the diffusion of industrial sociology (Chapter 1). Secondly, the idea of AWGs will be briefly examined in order to outline the potential of the idea and its component parts for management and the workforce (Chapter 2). Thirdly, the number and range of publications on the topic will be outlined; these will, in turn, be discussed and a sample analysed in order to find out how the idea of AWGs has been presented.

Chapter 3). Fourthly, the role of organisations in diffusing ideas and practices from the social sciences will be considered to gain some appreciation of their scope and the coverage they give to topics such as industrial sociology and A.W.G.s. (Chapter 4) Thereafter the activities of specific organisations - the Industrial Training Boards will be considered in an attempt to evaluate their role in the process of diffusion. (Chapter 5) Fifthly, the role of linkers will be considered in the light of conversations and interviews with a variety of people carrying out this role. The aim here is to explore the variables and factors which affect the diffusion of ideas (Chapter 6). Sixthly, the interviews in the brewing industry will be discussed in order to discover how topics such as industrial sociology reach and enter organisations; the reception given to them, as well as the evaluations of managers as regards the social sciences. (Chapter 7). Finally, Chapter 8 will summarise and consider the findings of the research and some tentative conclusions will be advanced.

CHAPTER ONE

Diffusion

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DIFFUSION

How is industrial sociology brought to the attention of managers? What influences its production? What is presented to managers and how? Who presents it, and where? Who receives it and how is it received? These and many other questions regarding the transmission and use of industrial sociology can be dealt with by looking at the area of diffusion. To study diffusion is to study the way in which an idea or practice travels in a society. It is, above all, a process - a process in which various elements interact and interlink. Three basic processes - production, linking and consumption - have been identified¹². Although this division is very much an artificial one - none of the processes being discrete (this cannot be over-stressed) - as an heuristic device it helps bring some order to this complex area. It is, therefore, a distinction which will be used here. Accordingly, this section in reviewing the research on diffusion will be divided into three parts.

Research into diffusion has tended to concentrate on certain areas: the production of knowledge in the natural sciences; the spread of practices rather than of ideas; and, to focus on the U.S.A. rather than Europe or the U.K. Extrapolation, therefore, from this research to the social sciences should be done most cautiously.

(a) PRODUCTION

Sociology, as Bell and Newby point out, takes place in a political context: "By political context we mean everything from the micropolitics of interpersonal relationships, through the politics of research units, institutions and universities, to those of government departments and finally to

the state. All these contexts VITALLY determine the design, implementation and outcome of sociological research." (1977, p.10) (Emphasis in original). It is on the contexts in which sociological knowledge is produced that the focus will be in this section.

For any knowledge or idea to be used it must first be produced. "Production"¹³ of knowledge is not as straightforward as it might at first appear. Most 'production' of sociological knowledge takes place within the academic sphere especially through research activities.¹⁴

While the contribution of others should not be overlooked, the focus here will be on the activities and products of the academic community. The accumulated evidence and research on the workings of universities themselves is slim. There appears to be an almost obsessive secrecy with which universities guard their activities¹⁵. Through placing together the research findings from disparate areas, some potential and possible influences on the product of sociologists can be charted. The extent to which one specific factor operates within sociology may be less important than the overall amount of influence which can be exerted.

In looking here at external and internal influences on academic activities and products, the aim is to trace the ways in which these factors influence the diffusion and potential usefulness of academic work. This, in turn, will indicate what, if any, activities of academics can potentially make them 'servants of power'.

The possibility of pursuing 'pure' academic work is questioned by Kuhn's (1974) work on scientific paradigms which focusses on the internal workings of scientific disciplines. Again, the work of Baldamus, (1961) especially in his analysis of the value-loaded concepts used by academics, points to external influences on the academic product. Like everyone else,

producers of knowledge are subject to numerous social, personal, political and economic pressures - they are a part of, and reflect, the wider society. It would be the absence of such pressures, not their presence which would be surprising. Nevertheless it will be interesting to review the ways in which pressures can be exerted. In this section, the three main areas of influence will be looked at in turn: within the academic community; through government; and through industry and commerce.

(1) Pressures from within the academic community

The members of the research community are a highly selected group. At school, as undergraduates and postgraduates there is a continual sifting of candidates. The remarkable homogeneity of class backgrounds is being little eroded (See Livingstone, 1972, p.84). The aspirants have, at each stage, been further socialised into the norms of the academic community by peers, supervisors, lecturers, etc. with "the increasingly intense inculcation of that ethos into those who survive each successive stage." (Shils, 1968, p.474). The ground rules of the academic community are learned and, in turn, passed on.¹⁶ At the same time, no researcher is completely isolated from other researchers, e.g. in the direction of the discipline, in contributions etc. In Kuhn's work (1962) on paradigms many illustrations of these influences are given.

The output from the academic community ranges wide: publications, lectures, seminars, conferences, research reports, theses. The young academic in an increasingly competitive environment is under pressure to produce, to become 'visible'. Visibility is most often achieved through publications: books, articles, working papers - journal articles being the

most numerous. In seeking 'visibility', academics foster the diffusion of their work - both inside and outside the academic community - they have little choice in their audience.

However, in the main, academic journals are run by academics for academics. In editorial decisions a great deal of reliance is placed on personal knowledge in choosing referees and evaluation manuscripts. Thus there is a "relatively high degree of personalisation of the formal communication system in British social science." (Whitley, 1970B).¹⁷ 'Personalisation' is probably found in most field of human activity but its existence means that the unknown, the newcomer, the dissident, the unconventional are less likely to be heard.¹⁸ Compounding this is the monopoly enjoyed by senior academics - in any speciality - on review panels, in editorial policy of journals and books, in research funding policies.¹⁹ Attempts to upset the established world are unlikely to be successful, and will be resisted by those who are securely ensconced in the academic order. Arblaster in his book 'Academic Freedom' (1974)²⁰ shows how some academic institutions have actively taken steps to muffle dissenting and radical views e.g. Warwick, while others seem to operate less conspicuously but nevertheless, effectively. However, given that other means of communication are available, all dissent may not be stifled. Yet the opportunity to be heard may differ according to the institution to which one belongs. Collinson and Webber found a "connection between particular institutions and particular journals" (1970, p.532) e.g. the British Journal of Sociology and the L.S.E. and Oxford; the Sociological Review with Liverpool and Keele and non-university contributions; Sociology with Essex, Cambridge and Strathclyde. (A similar situation exists in the U.S.A. - see Lin and Nelson, 1969, p.49). Journals seem to prefer specific topics: British Journal of Sociology and Theory;

Sociology - methodology; Sociological Review - urban/rural sociology (Collinson & Webber, 1970, p.539). Whitley found in an established field that the referees of a 'pure' journal found papers on empirical and methodological topics more acceptable than theoretical work compared with a journal operating in a less structured interdisciplinary area (Whitley, 1970A, p.253). This suggests that less theoretical diversity is acceptable in established specialities while newer fields, perhaps at a pre-paradigmatic rather than a paradigmatic stage (see Kuhn, 1974) - tolerate a wider range of discussion. Thus, certain topics are likely to have greater prominence than others in the major British sociological journals. And the university to which one is attached may affect the ability to become 'visible', and by extension, the diffusion of one's research. Other factors also have a role to play. For instance, the predominance of men in their early thirties was also found! (Collinson & Webber, 1970). Thus the institution one belongs to, type of article, e.g. empirical or theoretical, and the topic area may be factors affecting the selection of journal articles. Similarly the age and sex of the author may be relevant. Not surprisingly Whitley (1970B) found that of 32 editors only 13 gave detailed reasons for rejecting manuscripts. In most cases, no specific reasons were given for rejection. Editorial activities are important: "the manner in which an editor or his editorial board organise a journal to process submissions affects the actual decisions thus the development of the discipline or area in the long term (Crane, 1967)". Whitley (1970B)

While the publish or perish syndrome found in the U.S.²¹ inadequately reflects academic life in the U.K., the importance of publications cannot be disputed. In a curriculum vitae, and as support for research applications, publications may be critical. And those in established academic careers will more easily obtain research funds with the accompanying increased

possibility of publication and the prestige of the academic correspondingly enhanced. The existence of a Matthew Effect²² in the academic world - where the rich get richer, etc. - is not untenable. As Merton puts it "Recognition can be converted into an instrumental asset as enlarged facilities are made available to the honoured scientist for further work. Without deliberate intent on the part of any group, the reward system thus influences the 'class structure' of science by providing a stratified distribution of chances, among scientists, for enlarging their role as investigators. The process provides differential access to the means of scientific production." (Merton, 1968, p.57).

In other ways the Matthew Effect occurs. Not only the relationship between some universities and some journals, but in regard to the professional association of sociology - the British Sociological Association, where "London and Oxbridge (graduates) together have provided between 1950 and 1970, 51.3% of the membership, 55.6% of the Committee, and 41.1% of the authors of research papers" (Collinson & Webber, 1970, p.534). If, as Merton suggests, departments with the greatest prestige attract a disproportionate share of truly promising graduate students - as appears, a priori, to happen with Oxbridge, then Britain can be seen to have the makings of a hierarchical ranking of university departments.

The informal collaboration between members of an academic community - the exchange of manuscripts and data, the correspondence, seminars, meetings - has been referred to as an 'Invisible College'. While undoubtedly in some way related to ability, Ziman states "The usual entry is by patronage." (1968, p.131). In other words, one has to have a Connection in order to make further Connections. The importance of the Invisible College should not be underestimated "in practice we defer enormously to the opinions of the acknowledged experts, the Senior Fellows of our Invisible Colleges, the

Chairman of conference sessions, the 'invited' speakers, the pundits who give courses at summer schools, write review articles, adjudicate between conflicting referees, edit journals, sit on all the grant-awarding committees and generally seem to run science for us." (Ziman, 1968, p.133)

If an 'Invisible College' operates in sociology - or in specific areas of sociology,²³ then it is likely that those at the top, the 'senior fellows', seek to protect their positions with the maintenance of the status quo, screening out any possible disturbances. Simultaneously any aspiring fellows will assiduously try to meet the presumed demands of the senior fellows for admission. The product of sociology, bearing in mind the influence of those at the top, is unlikely to be very radical. Not only will the content of sociology which is available for diffusion be affected, so also will be the ways in which and why diffusion occurs. For example, the 'Establishment' may frown on attempts to popularise or demystify sociology and in this way affect where and how research is presented.

(11) The government and its influence

One important element of the Servants of Power notion (and also important regarding what is available for diffusion) is that the focus of research may be decided, or at least greatly influenced, by people or organisations other than practising academics. The notion of academic freedom is, to a large extent, a myth. Reliance on outside sources for funds means that some accommodation to the givers of funds must be made. Whether this accommodation relates to the favoured type of research, area of research etc., the academic community has to meet demands made from outside their discipline. Funds from public bodies account for 85% of university support (Committee on Higher Education, 1963, p.217). "The government supports the universities in three ways: by paying students maintenance grants, by supporting research and

graduate study through the research councils, and by direct payments to the institutions through the University Grants Committee..." (Livingstone, 1974, p.102)

The U.G.C. - a body comprised mainly of academics - acts as intermediary between the government and universities. It advises the Chancellor on the appropriate total grant to give to the universities and on the distribution between universities. While the U.G.C. committee members are selected "for their knowledge and standing and not for their political affiliation" (Robbins Committee, p.235) the final decision on financial support rests with the government and is therefore political in nature. Thus, for instance, it is governments which determine the degree of expansion or contraction of universities.²⁴

Of the grants made to universities by the U.G.C., the recurrent or block grant to cover running expenses is the most important. "In theory, each university has control over how it spends the grant." - "Informally, the U.G.C. makes it plain what it wishes to encourage and what it does not." (Livingstone, 1974, p.106). Obviously the U.G.C. communicates and partially reflects government thinking on university matters to the universities. The U.G.C. would seek to meet the "economic and industrial needs of the nation" (U.G.C. memo of Guidance for 1967-72 quoted by Arblaster, 1974, p.57). Thus in the Memo of 1967-72, special attention was recommended to more vocational courses for postgraduates; training to ease the transition from academic to the industrial world; and, greater emphasis on applied research (Arblaster, 1974, p.57). Similarly, decisions to increase staff-student ratios and so reduce the amount of time spent on research may be conveyed from the government via the U.G.C. "The Committee has shown itself more than willing to urge and even compel the universities to move in the narrowly utilitarian grooves desired by successive governments." (Arblaster, 1974, p.57).

More applied research, less time for research, greater emphasis on vocational training, etc. will affect what is produced by the academic community.

Perhaps it means that less polemical material and material less tempting to the media is produced, reducing the interest and attention paid to the subject. Or it could mean that an attempt is being made to meet the demands of a particular sector of society, such as that which gives funds.²⁵

If academic freedom refers to freedom to decide course content, and freedom of development, then the mythical nature of that freedom is obvious. To think otherwise would be naive: "Money does not come free" as Orlans reminds us (in Sjoberg, 1969, p.4). Whether the U.G.C. and its largely academic membership "merely puts an acceptable face upon a broad policy decided in Whitehall" (Livingstone, 1974, p.108) or in fact represents the universities' interests is debateable. Certainly, as the U.G.C. itself stated: "The needs of the State have almost without exception been met when the need has been shown clearly, precisely and authoritatively to exist." (Cited in Arblaster, 1974, p.50). A remark which suggests that academic considerations are by no means always primary.

It is through finance that the product of sociology (hence what is available from diffusion and use) can be crucially affected. The financing of sociology is not as straightforward as it may appear. The finance for Research Councils comes from the Department of Education and Science 'science budget'. Unlike the U.G.C., the accounts of the Councils have to bear close scrutiny by the Exchequer. But the Councils enjoy autonomy in respect of training and research programmes according to the Rothschild Report (1971, p.4). Dainton, while reaffirming the Research Council principle that academic priorities should be decided by scientists continued: "it is of utmost importance that those making these judgements should be continually aware of national needs and objective. Otherwise there will develop a

dangerous and corrupting 'ivory towerism', which will also impede the most effective transfer of scientific ideas and discoveries to practical use." (Dainton, 1968, p.13). Thus, the 'autonomy' enjoyed by Research Councils must be heavily qualified. 'National needs' change from government to government and reflect political stances. Thus, the Research Councils, like the U.G.C., are likely to be influenced by and even reflect government policy.

The directing of research development is not merely of academic concern. The amount and type of research undertaken today influences the rate and breadth of future research and by extension what is diffused. "Most social science research is done by men who gain their livelihood as teachers. The problems they select for research determine to a considerable extent what they teach. And what they teach determines to an important degree the outlook of their students upon technical problems and related policies, and in the case of those students who go on to make a career of research, the teaching they receive will influence heavily the kind and acuteness of the problems they will eventually elect to investigate." (Lynd, 1967, p.9-10).²⁶ Concentration on some issues at the expense and exclusion of others, narrows the scope and prevents the 'natural' development of academic activity (although this latter claim may be spurious given the alacrity with which academics meet sponsors' requirements). Any activities by the U.G.C. or Research Councils that reduce the amount of autonomy, and correspondingly the integrity, of academic institutions simultaneously reduce academic freedom of development, and increase the amount of external influence on the sociological product.

The SSRC, despite receiving a tiny proportion of the DES science budget plays an important role in the funding of research in the social sciences. In 1973-4, for instance "34% of the total professional personnel involved in externally funded research" (Barry et al., 1975) were supported by the SSRC.

The Research Councils have greater contact with individuals and departments in universities than the U.G.C., and the generalised pressures from the U.G.C. are less obvious than, say, the concrete policies of the SSRC. So preferences that the SSRC displays - in type of work, such as a preference for empirical research, (Shaw in Platt, 1976A, p.213), to shun multi-disciplinary research; and preferences for specific topic areas in recent years, (Arblaster, (1974), reports that research in management/ industrial relations and economics have been given the highest number of grants) - are more quickly noted and responded to.

Given that the SSRC is an important source of research funding, as with any such body: "applicants for a grant are tempted to tailor the presentation of their project to fit what they believe to be the preferences of those awarding the grants." (Platt, 1976B). It is interesting then to note Barry et al's comment: "there was no evidence that the Management and Industrial Relations Committee was being approached for funds for research whose topic or results might be politically sensitive (in the widest meaning of 'political')." (Barry, et al., 1975, p.31).

The predilections of the SSRC in awarding grants underlines their role in helping the rich get richer... in university departments. "Large grants and programme grants are awarded to universities with established reputations..." (Barry, et al., 1975, p.34) and the SSRC tends to limit the distribution of

grants to a small number of university institutions - only small amounts going to research in polytechnics. Those outside the established centres who seek to establish a good reputation may find it difficult to break in to the circuit. The SSRC, not surprisingly, follows a 'safe' policy in awarding grants; it also appears to go along with demands for relevance in research. That academic endeavour should be put to practical use is a recurring theme from the U.G.C. and the Research Councils which has surfaced in the SSRC's Open Door Scheme of the Management and Industrial Relations Committee through which employers organisations, trade unions, consumer groups, etc. are invited to suggest research topics - within a given range. Any biases which exist in a research area are likely to be reinforced by emphases on the 'established' and the status quo. Thus the uses to which sociological knowledge is put, and by whom, will be affected.

Business schools are, naturally enough, primarily concerned with business and management problems. That the SSRC favours management and industrial relations research (as well as economic research) and more support in the field goes to business schools than universities (see Barry et al., 1974, p.18, fig.11) is surely indicative of a managerial bias in their approach. This could easily be likened to meeting 'national needs' and looking after the 'national interest' which, of course, is taken to be equivalent to looking after the nation's industry and commerce. The corresponding dearth of research relevant to trade unions on which the TUC has commenced (TUC Report, 1971, p.239, and 1973, p.255) as well as others (Arblaster, 1974, p.78-9) lends some support to Nicolaus's claim: "Sociology has worked to create and increase the inequitable distribution of knowledge; it has worked to make the power structure more powerful and knowledgeable, and thereby to make the subject population relatively more

impotent and ignorant." (1972, p.41). Whether or not the knowledge produced is used and does strengthen the existing power structure (other than in a negative way by merely diverting funds from other areas) is a moot point and one which it is hoped can be answered later.

It is surprising that given the apparent response of the U.G.C. and Research Councils to meeting 'national needs' (according to Arblaster, 1974) - a neat euphemism for political doctrine - both the U.G.C. and SSRC are comprised mainly of academics with representatives from industry and research establishments. (Committee on Higher Education, 1963, p.235). However, it is possible that the U.G.C. and SSRC members are sympathetic to calls made 'in the national interest'. According to Dainton "The morale of the scientific community, and therefore its effectiveness in research and teaching in large measure depends on the fact that the people who make the detailed decisions on scientific programmes, awards of grants, studentship policy, etc., are known to and respected by the working scientist." (1968, p.15). Yet as Cherns points out "It is also inevitable that the people invited to serve on disciplinary Committees will tend to represent an 'Establishment' in that discipline." (1967, p.200). Although the limiting influences on the production of sociology can be shown, they are not necessarily totally crucial. (As Rose comments: "any given industrial issue may be of equal interest to managers, state officials or social scientists for quite distinct reasons." (1977, p.18).) Research undertaken with certain aims and audiences in mind may be useful and usable to other aims and by other audiences. Nevertheless, the research activities of academics do seem to be weighted so as to favour the interests of those who are in control - of society and to a lesser extent, the academic community. Appointed by the Secretary of State for Education and Science, Research Council members will tend to be both established and Establishment figures, causing little worry to their political masters. For

"it is at least as likely that, for most academics, involvement (in government service) produces an 'understanding' of the 'problems' of government which makes for a kind of 'responsible' criticism that bears a remarkable resemblance to more or less sophisticated apologetics. Such men are often senior and eminent academics, their contribution to the 'officialisation' of university thought and behaviour ought not to be underestimated." (Miliband, 1973, p.223). And it appears that the academic elite, or the 'scientific barons' as Rex refers to them (1970) are more than pleased to be consulted and incorporated into the elites of other circles, e.g. government, business etc. Thus the respect and standing of academics whose 'incorporation' is seldom recognised ensures a continued readiness by universities to concur with U.G.C. and SSRC guidelines and by extension, demands to meet 'the national interest'. The great dependence of universities on government funds is similarly a fact of life more readily appreciated by senior academics who in the context of the 'constitutional' government and administrative arrangements of universities and colleges have been referred to as "the oligarchies who rule, and expect everyone else to conform to the rules which they have made, and which concentrate 'constitutional' authority in their hands." (Arblaster, 1974, p.118 - emphasis in original). Nevertheless, pressures to make the universities more accountable for their expenditure can and have been resisted, (Cooper, 1966, p.18) suggesting that a degree of autonomy is sought. Indeed, it could be argued that the fiction of independence can only be supported by 'apparent' resistance to such pressures.²⁷

Governmental direction of research manifests itself also through the research contracts and projects initiated by government departments and public bodies. The DHSS research budget, for instance, amounted in 1975 to £5 million compared with the £3 million budget of the SSRC. The emphasis in government policy in recent years has been to increase awareness of

research findings and their possible application. Problem-centred research is open to criticism - not only from the perspective of the academic discipline, but because "If we have given any advice at all, it has been to those in high power. The unwitting consequence of this one-sided consultant role has been that we have too often assumed that the social pathology has been in the ghetto rather than in those who have built the walls to surround it, that the 'disadvantaged' are the ones who need to be changed rather than the people and the institutions who have kept the disadvantaged in a submerged condition." (Deutsch, 1971). The parallel with conducting 'useful' research and research in 'priority areas' is obvious. There are other possible repercussions: "When sociology becomes an applied science in response to the demands of a bureaucracy, either public or private, it tends not only to lose its freedom of choice as regards research options and to approach reality looking for answers to questions asked by its patrons - for it owes its subject matter and its resources to a bureaucracy and makes administrative organisation its favourite object of study - but it more than ever risks turning into administrative sociology or sociological administration:" (Bourdieu & Passeron, 1967, p.185-6). Similarly: "Some of the dangers of allying the universities with government and industry are obvious. Others are subtle. I believe a careful study would show that, increasingly, the values of the academic have become the values of the market place or the governmental arena and not the values of the free intellect. The age of faculty and university affluence has exalted economic advantage at the expense of human and humane values." (McConnell, 1966, p.90).

Funds to universities also come from military sources. In 1971-2 "...Sussex received 21% of its research money from military sources, Oxford 13% and Cambridge 9%." (Arblaster, 1974, p.66). This "particularly unsavoury source" as Arblaster calls it, not only finances research projects

but also funds 'defence lectureships' (seven in all). As with other sponsors "Normally there are no explicit conditions and no direct intervention by the outside piper. He calls the tune nevertheless, simply because the institution takes care to avoid any risk of confrontation or a row by the simple device of not making the kind of appointment likely to offend the sponsor. It is another version of self-censorship or, more precisely, of the kind of self-restraint which makes direct compulsion or pressure unnecessary, but is nevertheless not voluntary because it is induced by the fear of sanctions." (Arblaster, 1974, p.79-80).

(iii) The influence of industry:

Funds for research and lectureships are also forthcoming from industry and commerce. "Industrial research is in general the main field of 'privately' sponsored social science activity..." (Shaw, 1975, p.6) and funds mainly go to the main business schools and independent institutions. However, funds also go to the "developing centres of research in the new universities and to centres affiliated to technological institutions." (Barry et al., 1974, p.77). The greater contact between industry and academic institutions is reflected in the growth of business and management studies in universities. Management education also obtains prestige through university patronage, 'a patronage which "serves to emphasise publicly its national and economic importance." (Child, 1969A, p.260). Correspondingly, "Whereas the original forms of industrial social science were extensions of academic activity into 'practical' spheres - even though the reasons for this lay in the industrial situation - the process now operates in reverse. 'Industrial relations', 'business studies', 'work study', 'management studies', all now invade the universities, politechnics and colleges as 'academic disciplines'." (Shaw, 1975, p.28) It might be expected that greater contact with academics might also foster the utilisation of social science and social scientists in

industry through a greater familiarity with the discipline - although the reverse might also occur!

A major problem with sponsored research is that the findings may never be published, or the politically sensitive findings be suppressed (see Platt, 1976, p.59, and Rex, 1970, p.149), which means no public contribution to academic knowledge is made.²⁸ This is a problem encountered in many instances where access is difficult: conditions can easily be imposed by those who control access. For instance, managers in organisation are becoming more dubious of co-operating merely on an altruistic basis and demanding that research be defined in a way which is directly relevant to the organisation's needs." (Pugh & Payne, 1971, p.175) The Official Secrets Act and the libel laws can also militate against a full reporting of a project (Bell & Newby, 1977, p.173). Another major problem with sponsored research is in identifying a researchable problem and designing the research. Although most universities and university research units maintain their autonomy in this respect (SSRC Newsletter, 1974, Oct/Nov, 25, p.17), problems of future access, ensuring cooperation throughout the research, etc. will mean that in most instances critical or polemical stances are not taken. Just as close contact with government can engender understanding of its problems, close contact with the world of business may be expected to result in a "lively appreciation of the virtues and purpose of private enterprise." (Miliband, 1969, p.224) Thus, Seear reports: "The development of industrial research by human scientists in Great Britain has been strongly influenced by the nature of British industry, by relations between industry and the universities and by the position of the human sciences within the universities." (1962, p.171)

Governments, the military, industry and commerce can influence academic activities in a number of ways, most of which relate to funding: of research, students, chairs, lectureships, departments. Also in the principle of lay membership on academic boards - highly valued by some parties (Committee on Higher Education, 1963, p.274) - through which advice and criticism independent of the universities can be voiced. Lay members on university councils may outnumber academic members by as much as 4:1 (Livingstone, 1974, p.43) and while they are not meant to involve themselves in purely academic matters, interference has, on occasion, occurred (e.g. Warwick University). Through Council's financial control, great influence over the shape of academic development can be exerted. (Livingstone, 1974, p.44).

Given Veblen's comment that "Business success is by common consent, and quite uncritically, taken to be conclusive evidence of wisdom even in matters that have no relation to business affairs." (Lerner, 1948, p.513), it is no surprise that Arblaster can report "It is common practice for businessmen and employers to sit on university and college governing bodies, while the presence there of trade unionists or simply of working people is a rarity." (1974, p.86).

In turn, the lobbying power of industry through various organisations such as the CBI, IOD, Aims of Industry, Economic League - the shared backgrounds of top industrialists and government and civil service members, the equating of industrial with national success all ensure that the interests of industry and commerce are promoted, and even if their interests are not fostered, they are at least not harmed. Thus Arblaster (1974, p.57) cites a U.G.C. memo "The Committee fully recognise that a University has other objectives besides providing Industry with ready-made recruits and that

much has already been done to promote closer collaboration with Industry. But there is no doubt that it would be valuable if the Universities collectively made a further deliberate and determined effort to gear a larger part of their 'output' to the economic and industrial needs of the nation."

(iv) Summary

What emerges through a review of the research which has been carried out on the production of knowledge is that there are a number of pressures and influences exerted on individuals, departments and universities in the academic world. Examination of the influences from within the academic community - and outside it from the government and industry illustrate that any output from the academic sphere is a highly mediated product. How these pressures and influences affect what is diffused from and within the sociological community is not known, and would be exceedingly hard to determine. The tendency, however, would appear to be a conservative one in a number of ways. The fairly homogeneous composition of the academic community, the personalisation of the communication system, the monopoly enjoyed by senior academics, the relationship between universities and journals etc. when combined with the importance of publications means that it is in accordance with the known norms and standards of the senior fellows that research will be formulated and conducted. There is little room for those who are out of step. Those who aspire to an elevated position in the academic community will ape those who have succeeded.- thus, the maintenance of the status quo is assured. Those who do not so aspire are likely to remain marginal, and not imitated. (However, there are a few who establish themselves and pursue a successful career by actively and audibly voicing their opposition to, and criticism of, the prevailing order). The influence of government, through its funding, its research priorities, its education policies, its political

demands, etc. is large. The activities of the universities are much influenced by government. When that influence affects what is researched, then the influence is obviously not going to be in a radical direction but in a conservative one. It is an influence which will seek to preserve the status quo. Those who disburse funds do not normally seek to undermine their own position which is dependent on the maintenance of the existing state of affairs.

The propensity of Research Councils to go along with government demands or pleas to consider the 'national interest' is another contributor to the conservative bias of research. The incorporation of established academics into the Establishment means that dissenting voices are not to be heard in prominent positions and are, therefore, unlikely to be closely listened to.

The various influences of industry and commerce on universities ensure that their interests are not forgotten. Again their priorities will reflect an interest in maintaining rather than in changing the prevailing social order. The political context within which sociology operates is, therefore, a conservative one. It is one which assures the promotion of the interests of those who run industry. Or more subtly, 'national interests' - indistinguishable in a capitalist society from the basis of that society - capitalist enterprises. Nevertheless, it is not easy to point to particular instances where influence has directed the activities of academics. The influence, therefore is likely to be insidious and hard to isolate.

The question must be asked as to whether this influence is planned, or is the result of the capitalist nature of society itself? If the latter then it is not necessarily the case that the product of academics is of interest or use to those in industry. But if the influence is planned, then some rewards are expected to be reaped from the knowledge produced

by sociologists. Arblaster would argue that this is the case: "It is only rarely that the men who dispose of the profits made in industry make hand-outs to education for the educationalists to spend as they think best... Capitalists look on their donations to higher education as a form of investment, something which will, at least indirectly or in the long run, assist them in their daily business of making profits." (1974, p.78). It will be interesting therefore to look at the perception, and uses made, of industrial sociology. On similar lines, the conservative influences may affect the diffusion of sociology. Conservative research findings may be assumed to have a ready market and a receptive managerial audience. Again, an assumption it would be interesting to test (although as noted earlier, the journalist may eschew the dull and predictable in favour of the titillating (see Chapter Six, The Linkers)).

In now turning to the role of those who link the worlds of academic production and consumption, some appreciation may be gained as to how and on what criteria academic findings are presented to other audiences. It will be of interest also to discover what attitudes to, and uses are made of, academia and its potential services.

(b) LINKING

Given that ideas are produced, how and why are they taken up? Who diffuse and popularises ideas? The mediating role between the 'production' and 'consumption' of ideas is that of the linker. In the most general sense, it is the linker who relays, transmits, amends and distorts information produced elsewhere. By looking at the activities of linkers, some notions may be obtained as to why and how fashions change; how the product

of the academic and other producers is altered; how the operation of the media affects the content and presentation of ideas; and, the role that academics play in the process.

The very notion of linker is somewhat artificial. Linking is part of the process of diffusion, not a separate stage. Producers of ideas may also act as linkers, e.g. through teaching, conference papers, books, etc. Similarly, consumers of ideas may act as linkers, e.g. in advertising their new practices, in giving talks to other firms, etc. Linking may also be done within an organisation - industrial or academic - there is no necessary involvement of an external mediator. At the same time, however, there are people whose job is to act as linkers: journalists, management consultants, training board advisers. These people seek to inform a specific audience of new ideas and practices. To better understand who acts as linkers, it is useful to look at how linking can and does take place.

(i) How linking takes place:

Consulting, advising, information services, writing, teaching, public speaking, publishing, broadcasting, applied research, advertising - are some of the more formal ways in which linking is carried out. Ideas are also diffused informally e.g. in casual conversations where it is not necessarily the intention of the communicator to do so. Similarly, linking may be the by-product of another activity, e.g. as when an academic seeking 'visibility' amongst his peers has articles published.²⁹

There are then a wide variety of ways in which information can be passed on, and there are, not surprisingly, a large number of people and organisations whose activities, to a greater or lesser extent, include some linking. Consultants, journalists, academics, trainers, management organisations, government departments and bodies, industrial organisations, employees and

employers, writers, publishers, etc. etc. None of these categories are discrete - some consultants write books, teach on courses, act as advisers to training boards as well as helping firms solve their problems. Academics may appear on 'chat' programmes, undertake consultancy work, act as advisers to government, as well as teaching and doing research. The degree of activity of linkers in diffusing information will vary. To some, it will be the central activity, e.g. journalists, while to others it may be no more than a sideline, e.g. academics.

The multiplicity of roles of many of the linkers does, however, ensure that no one channel of information is primary, if information cannot proceed through one it can be transmitted through another. Thus the control of one or even a number of channels may not be sufficient to screen out, or ensure, popular awareness of an idea. At the same time, the multiplicity of roles means an interchange from all the different spheres in which the linkers participate. What is happening in journalism may be picked up by consultants who are simultaneously aware of the current situation, say, in a government department. Thus the flow of ideas is ensured by a lack of specialisation. The more diverse the activities of linkers, the greater the chance of ideas from one sphere being diffused to another.

On similar lines, although more intentionally perhaps, linkers will keep an eye on the activities of other linkers. For instance, a 'popular' journalist may pick up an idea from the science section of a news magazine. As in any fashion there will be leaders and followers: those who set the trend and those who imitate. (Of course, academics are not divorced from the process of popularisation which might in turn lead them to take up an idea currently enjoying coverage in the popular press.) Here then, the feeding of linkers off one another means that there is a narrowing of debate and a limiting of issues. The art of surviving as, say, a free-lance

journalist or consultant may be the ability to present ideas in a novel way, taking what others have done and perhaps tracing out the implications or suggesting original applications. Perhaps the primary role of the linker is that of translating - cutting through the jargon of academics and specialists in order that laymen can be presented with a fairly readily comprehensible idea.³⁰

(ii) The influence of Institutional bases

The role and activities of linkers will be constrained by the institutional frameworks within which they are placed. Five main types of institutional bases have been identified by Havelock (1967) university, government, commercial, practice and independent.^{30A}

It is from the institutional base that rules and norms of behaviour often originate. For instance, for the academic community there exists "the continued unwillingness of the university to indulge in the kind of linkage to practitioners and consumers which comes under the loathed heading of 'service'." (Havelock, 1967, p.97). This norm is likely to affect those who are presently ensconced in the academic community and will be known and appreciated by those who have been attached to it in the past. Academic popularisers, therefore, remain marginal to areas such as sociology.

As with the university base where there are subtle and not so subtle influences on what topics are investigated, and thus on what is produced, linkers are similarly affected. Employees of government bodies or government funded bodies will take care not to overstep the limits of what is acceptable to their paymasters regarding their activities. Continued funding is, after all, sought. And government bodies, as we have seen above, are likely to reflect the current preoccupations to 'use' research, to meet 'national needs' i.e. the needs of industry and commerce. (If sections of industry do not feel that their needs are being met, then they may lobby support.

The Institute of Directors, for instance, in 1977 reported: "the Director-General pointed out that the first priority in getting ourselves heard had been to get the Press on our side: to a large extent we have done this. We are increasingly frequently reported in the Press, on the radio and on television. The second area we want to influence is the House of Commons and yes, we are expanding our contacts there.... But a third and more difficult area to conquer is the Civil Service. This is proving a much harder nut not crack, but the Director-General suggested our move to Pall Mall could help: we'll be that much nearer base." (Tucker, 1971, p.52))

Those who work in the mass media, such as journalists, may be influenced by the 'seeping down' of preferences (see Miliband, 1969) from the editorial function. What is and what is not suitable material quickly becomes apparent. Thus, in the BBC "Without doubt, the weight of the BBC's tradition and organisational authority weigh very heavily on employees. The pressure to conform to the BBC ethos is constantly maintained in many ways. All kinds of benefits and privileges accompany the upward path through the hierarchy. Breaches of conformity can be punished by removal to obscure managerial shuntings in the case of those thought to be dependable, or for the creative 'mavericks' a removal to Current Affairs or some more expansive department." (Glasgow Univ. Media Group, 1976, p.83). Although some journalists would protest their autonomy is reflected in how and what they write about, the remarkable lack of breadth in political views in newspapers surely reflects editorial policies and the views of the owner³¹ rather than the claimed range of political beliefs of journalists (see Tunstall, 1971).³²

The Glasgow University Media Group report for instance their "fundamental finding that at a deep level, considering the range of journalistic approaches available, the bulletins are very similar. Out of the range of possible stories they both make a closely corresponding selection day by day, often down to running the same joke human interest items at the end." (1976, p.6)

The ultimate audience at which most linkers aim is industry - and at those in industry who have the power to make decisions - which really means allocating funds. If the attention of people in industry is not caught, there may be less demand for the services of some linkers such as consultants and, in turn, for the services of those who inform consultants. Thus management consultants, business schools, publishers, academic consultants, employers associations etc. will all seek to meet the needs and interests of industry and commerce. It is, after all, industry which will be paying for their services and whose attentions needs to be maintained. No influence needs to be consciously exerted by the business community then, in order to have their interests furthered. This line of argument could also be extended to cover the content or types of ideas which achieve popularity - it being possible that it is the ideas and theories which are seen as appropriate to the needs and problems of those in industry which are preferred and presented by linkers, again without direct influence needing to be exerted by those in industry and commerce.

Thus, the institutional base affects production and in turn what is linked. Who receives funds, what projects are preferred, the criteria of promotion, etc. will affect the information output. Financial and ideological criteria will affect what and how information is presented in the mass media.³³ Technical constraints in space and time will affect newspaper and electronic media reportage. The confidentiality expected of consultants limits the information reported by them, etc. etc. Constraints - formal and informal, technical and financial, political and ideological - will affect the production or processing of information. External considerations may not be foremost. For instance, it is possible that greater attention is paid to one's peers than to one's audience. The approval or displeasure of colleagues is both immediate and continuing whereas feedback from an audience may be delayed and sporadic.

Similarly, different channels of a communication will be used by different groups but there is no neat dividing line between institutional bases and channels of diffusion. Professional journals may well contain articles from the academic community or reports from experiments in business organisations; conferences of learned bodies may well invite a well-known layman to address them, etc. Although Cherns has pointed out how different types of research will be reported in different journals, etc. (1969), few predictions can be made in this area. The University of Bradford Management Centre, for example, reports "As a matter of policy, research and development findings are reported to the practising manager through the trade and professional press, on TV and radio", and they also refer to their heavy involvement in the field of management publishing, and to their "major book editorial functions." (1969/70, p.33). At the same time, however, some channels are more accessible to specific groups of linkers, e.g. those with a commercial base will have better access to the mass media than say academics with their better access to journals.

In turn, the type of information presented depends on the channel of communication being used. Journals, less frequently published than newspapers, with longer articles will report more detailed accounts of research, etc. while newspapers require some condensation of information and a presentation that will appeal to a wide, general audience. The medium of communication, then, constrains the presentation of information. The short, succinct news bulletins on radio and tv; the sensational banner headlines of evening newspapers; the easily digestible conference speech; the demanded speedy response of information services to requests; etc. indicate the constrain under which the various media operate. Thus the need to please the audience and to maintain its attention, and all that implies is mediated by technical constraints; by the limits of the medium. Of course, the audiences reached will in turn depend on what kind of channel is used: academics, practitioners,

informed laymen, etc. In turn, the linker's perception of his or her audience will be another important factor. Perry, (1974) for instance, found that university and polytechnic departments intended the results of their social sciences projects for policy and decision-makers 38% of the time, research in similar fields 34%, for other professions 17%, for informed public opinion 4%, and other 7%. Similarly, the science reporter who has a notion of what the 'public' are interested in, may convey 'news' rather than the detailed nuts and bolts of research. (see Krieghbaum, 1968, p.39). DSIR leaflets were produced for those who don't have the time to browse (Niven, 1967) which summarised the conclusions and significance of research findings (Seear, 1962, p.179).

The constraints of individual organisations will also limit the activities of linkers. For the in-house consultants, departmental rivalries, 'empire-building', etc. will affect their impact. For independent consultants, as at the Tavistock, the need to attract sufficient finance may mean that non-lucrative activities such as seminars are shunned. Thus the linking role may be secondary to other considerations. For senior academics, the administration and teaching commitments may impinge on research activities depending on the priorities of a particular department. A known specialism of a consultancy firm may mean it is not approached for other work. The precarious financial basis of some management organisations relying on subscription, may negatively affect any inclinations to be innovative and risk losing members.

At a more general level, linkers and their organisations will be greatly affected by the economic climate and its influence on industry and commerce. Increasing or declining budgets for consultancy, the changing nature of immediate problems in industry will affect both the demand and type of expertise that is sought from linkers. Similarly linkers will be responsive to larger social trends and concerns whether it be for 'improved work', industrial

democracy or whatever. In other words, they will respond to their own previous activities. For writing and speaking on some topic increases the attention paid to it, in turn contributing to its possible popularisation. And a bandwagon effect may occur where a mushrooming of articles, speeches, etc. reflects the propensity of some linkers to imitate and follow the leads of others in the field. It would be interesting to discover how bandwagon effects originate. It is because an influential figure, or publication has presented an idea? In other words, are there field leaders? Or is there some intrinsic factor in the idea being presented which appeals, e.g. 'it chimes with the times'? Why, in other words, does one idea and not another take off?

(iii) Some further influences upon linkers

Linkers by their very nature, are trying to reach some audience - and for a variety of reasons: financial, prestige, ideological, etc. - and in turn this means that the needs of the audience have to be understood. (Of course, they may also be reaching and reacting to audiences other than those they sought to reach. The distinction being made here is between intentional and unintentional linking, a factor which must affect the presentation of material. For instance, having a notion of the audience one is trying to reach will affect the language, arguments and complexity of the publication.) To some extent, linkers must identify with their audience and their needs which in turn implies a distancing of the linker from the source of information. "A science writer who comes to identify himself with scientists in his thinking and writing will soon lose his non-scientific readers" (p.177, Johnson in Krieghbaum, 1968). But empathising with the audience is not enough, more concrete evidence of impact is necessary in order to ensure that the audience's needs are being met. There are a number of ways in which linkers receive feedback: journalists

through circulation figures and readership surveys; consultants by the amount of business they attract and whether it is 'repeat' business; academics by requests for articles, reviews, books; teachers by the numbers of pupils and demand for courses. Unsuccessful linkers will not survive long in the absence of financial rewards - if linking is their primary activity.

One notable aspect of linker's activities is that of 'marginality'. "Marginality may well be inherent in the linking role for strategic reasons. The linker is necessarily and by definition an in-betweenner. He takes from the research world but is not clearly a part of that world, and he gives to the practice world while not being clearly a part of that world either." (Havelock, 1967, p.109). While Havelock's conception of linker needs to be extended, the point nevertheless holds good, that those who seek to diffuse information become more marginal to the sphere they start from. Marginality is probably more important for those nearer the producers and consumers respectively, such as the academic consultant and the management consultant. Both are likely to identify with yet simultaneously be shunned by their colleagues. Thus, for instance, the science reporter is in a Catch-22 position: in trying to reach and keep the interest of his audience he is seen to misrepresent and exaggerate research findings by scientists (see Wood, 1962 and Krieghbaum 1968, p.162). The importance of marginality is hard to gauge - does it mean, for instance, that academic consultants write fairly technical articles in order to reach two audiences: the academic and the popularisers? Does it mean that management consultants present theories in a light most attractive to businessmen? To which group is greater attention paid? It seems, a priori, credible that the orientation of linkers - their aims - affects how and about what they write. But the perceived needs and wants of the audience must be a very salient factor in

what ideas are picked up by linkers. Marginality may both help and hinder linkers. Help, in that the greater distance from one group can assist the linker see the wider implications of ideas or appreciate factors which are not obvious to those firmly ensconced in one group. But marginality may hinder in that the linker may be excluded from some of the activities of a group restricting the flow of information. Trying to relate to two groups neither of which accepts him, may result in a stronger professional identity - journalists are a good example here. In turn, audience feedback may also encourage greater attention to colleagues' opinions and evaluations of one's work. Marginality then, is a factor in the linker's activities which ought not to be overlooked.

Can anything be said about what topics and ideas the various kinds of linkers will take up? Many suggestions have been made, all of which are singularly unhelpful in any attempt to identify in advance what ideas might be taken up, e.g. the simplicity of an idea, that it be intellectually attractive, makes sense, is easy to convey, easy to apply, is exciting, is controversial, is non-obvious, it fits current preoccupations, etc. etc. A great deal of work has been carried out regarding the attractiveness of new ideas or practices for consumers, e.g. that it is compatible with present practices, has a relative advantage over a previous method. But these criteria could be applied to many new ideas and still be unable to predict what ideas will achieve popularity. Anyway, do linkers have the same criteria and concerns as the consumers of ideas? They seek interest in their ideas as much as adoption. And is the attractiveness of an idea a reflection of the idea, or of who presents it, or how it is presented, or the problems it is purported to solve? Is it the publicity, the timing, the country or organisation of origin, which matters? Remarkably little is known in this area. The frantic activities of advertising agencies and market research firms only point to the uncertainties and mysteries of fashion.

The substantial resources and large audiences of some organisations and bodies does mean that their backing to any idea must increase the potential impact. Whether that backing comes in the form of governmental aid or encouragement or the 'packaging' of an idea by a management organisation, its presence may be a crucial factor. Thus, the resources of an organisation, reflected in the size of audience perhaps, will be a crucial component in the popularity of an idea-although not a necessary one. A well-known or listened-to figure may proclaim on a particular topic, increasing the chances of that topic being attended to. The personalisation process may mean that it is the individuals who are attended to initially, the ideas they discuss being secondary, e.g. The Duke of Edinburgh!

There are, then, a variety of ways in which 'consumers' may learn about industrial sociology. Not only is the progress of an idea complex, even untraceable, to find out what actually reaches the user must be discovered by their impressions of what is obtained (bearing in mind all the attendant problems of recall, selective perception, etc.).

The impact of information and its relation to the method of presentation is difficult to measure. There are advantages and disadvantages in the various methods. For instance, written information can be read and re-read at leisure whereas verbal communication is less easily retrieved and is, perhaps, more selectively remembered. Information sources, in other words, differ in their degree of accessibility (see Copp, 1958, p.154). Yet there are other factors: "Impersonal sources can usually be more easily avoided, 'turned off' or ignored than can personal sources." (Rogers & Beal, 1957, p.330). Similarly in personal contact "not only is information communicated but the degree and intensity of feeling or conviction is also communicated. Two-way communication is possible and the communicatee may secure clarification or additional information." (Rogers & Beal, 1957, p.329-30).

Information input may not always have the expected results. Klein notes for instance, that short, and appreciation, courses in the social sciences may be dysfunctional: "It has been said that the member of an OR team who is least likely to want a professional economist included in the team is the one who has a smattering of economics." (1976, p.225) Yet she also points out "people cannot use or introduce resources of which they have no knowledge." (Klein, 1976, p.225). Thus the mere presence of industrial sociology in, say, courses does not mean it has a positive impact. Merely tracing inputs of industrial sociology indicates only that the topic is being conveyed, but nothing regarding its reception.

Similarly, the employment of a social scientist means little. They may or may not be able to use their training; they may or may not wish to use that training. Both the organisational climate and the individual's views on social science would need to be investigated.

(iv) Problems in monitoring 'linking':

One of the main reasons why so little is known about the impact of information is that information does not only come as a 'package' i.e. a specific item of knowledge from research embodied in a new product or practice. Information also permeates (see Stansfield, 1967, p.6) - where there is a modification in people's ideas, and, through them, in practices. Ideas that permeate are of course very much less visible than package applications of particular practices. Permeation may also mean that it is not the nuts and bolts but the assumptions and world view which are diffused. Permeation, in other words, may potentially have a greater impact through being less visible, and therefore, less open to attack - changing values rather than methods. Although making a slightly different emphasis, Bennis points out that while the new concepts of man, of power and of organisational values generated by the behavioural sciences have not actually been adopted

they have had "intellectual acceptance in enlightened management quarters." (1966, p.188) suggesting that permeation may precede packages in the acceptance and use of social sciences. Yet it is a moot point as to where 'intellectual acceptance' infiltrates into practices.

One addition may also be made regarding the application of research (one which Stansfield did not cover in his early work) - the notion of process. Here, an organisation may, for instance, underwrite some social science research or consultancy, yet no specific theory or package is suggested or being promoted. Rather, ideas and practices are used in whole and in part as a result of a process of working with and using social science ideas but neither through the application of a 'package' nor through the permeation of ideas. This would clearly be the case, for instance, in action research. Klein makes the distinction between 'outside' knowledge - which can be passed on to the learner; and 'inside' knowledge - embedded in personal experience and cannot be passed on except through practice (Klein, 1976, p.231). Here the content of the linking process is an individualised accumulation of knowledge and expertise and not any identifiable theory or idea. Yet, to the extent that implementation of any sociological knowledge in any specific situation is both different and distinct from any other implementation, then it is the processual nature of application which may be a more correct emphasis than, say, packages. Tracing the adoption of packages is, however, much easier and attempts to follow through permeation and process are fraught with difficulties. At the same time, with packages there is little doubt as to whether or not it has been used; permeation, on the other hand, presents many problems in trying to find out not only if ideas have been diffused but also their real impact, not just asserted impact, and the content of that idea.

The distinction between package, permeation and process indicates clearly the different kind of roles which linkers can play (selling specific practices, trying to change values, working through consultancy to introduce changes). The distinction also illustrates the different relationships the linker may have to the consumer: thus some may be fairly distant from the consumer, others may be so close that it is hard to distinguish who is the linker and who the consumer. When we look at the 'consumption' of information and ideas, the artificiality of the separation from 'linking' and 'production' should be obvious. Ideas are 'produced' in the consumption sphere and the linking sphere; they are similarly consumed in the production and linking sphere, just as both consumers and producers act as linkers. It becomes apparent in looking at the linking role that very little is known about it. Research in the area is scanty, theory virtually nonexistent. Reviewing some of the possible influences on the linking process illustrates the complexity of the activity. Evidence has to be culled from many disparate areas of study: mass media, fashion, diffusion, sociology of sociology, etc. The concerns of the various specialities differ and attempts to reconcile the different perspectives and findings seem doomed in the absence of empirical data. The appeal of focussing on the role and activities of linkers lies in both the unexplored and the disparate nature of the area. But for the moment all that can be said is that the area is extremely complex and no conclusion can safely be drawn from the scattered research which has been conducted to date.

(c) CONSUMPTION

The term 'consumption' is used in the widest possible sense to cover the reception and receptivity of various audiences to the information transmitted by linkers.

To isolate 'consumption' is, of course, to abstract it artificially from its context. Research on the consumption of ideas and practices can nevertheless be categorised as centring on three main areas;

1. the aspects of organisations which hinder/facilitate consumption.
2. the attributes of individuals who 'receive' and pass on ideas.
3. the ideas themselves.

These areas, of course, overlap. Individuals are part of an organisation and function within its constraints. The reification of organisations disguises the role of individuals and groups of individuals in that organisation. What ideas are considered may depend on the perception of the individual or the orientation, goals and past experience in the organisation. Thus none of these areas should be viewed in isolation.

(i) Organisations - Factors in Consumption

A great deal of research has been carried out relating to the adoption of technical innovations, especially in the USA. Similarly, in the field of rural sociology much work has been carried out on the spread of new farming practices, etc. However, very little work has been conducted in relation to the social sciences, especially in the UK. Work which has been done has tended to focus on the role of the social scientist within or in relation to organisations (see Platt, 1976B), not the organisation's reasons for, or features affecting the use of social science. The focus has been on the role of the social scientist rather than the role of social science. In reviewing the work in this area, the above points should be remembered - extrapolation to industrial sociology is difficult.

In looking first at the research which has focussed on the organisation as its unit of analysis, the most influential study is that of Burns and Stalker. They suggest that the 'management of innovation' is greatly affected

by the type of management organisation. They outline two ideal types: the mechanistic organisation where the rigid and highly defined structure inhibits change, and indeed, is unable to cope with real change; and, the organic organisation - both flexible and fluid in its approach and operation - it is adaptable and therefore better equipped to deal with and implement change.³⁴ However, the organisation of management does not sufficiently explain the non-adaptation to change of the more flexibly organised managements. Burns and Stalker suggest that the political and status systems of the organisation are also important. The political system is concerned with the demands for resources from the various groups in the organisation, and the status system reflects the distribution of political power in the organisation. Burns and Stalker found "Neither political or status pre-occupations operated overtly, or even consciously; they gave rise to intricate manoeuvres and counter moves, all of them expressed through decisions, or discussions about decisions, concerning the internal structure and policies of the firm." (1961, p.6).

Similarly, the importance of power regarding innovations has been noted (Knight, 1967, p.490; Pettigrew, 1973, p.31) and Perrow found a hierarchy of departmental power to exist where sales was seen as the most powerful group, followed by production, finance and accounting, and research and development (1970, p.82). Each group in the organisation has a variety of sanctions and rewards it can use in its claim for greater organisational resources through which to strengthen its position (see Pettigrew, 1973, p.150; Burns & Stalker, 1961, p.191). But it is worth noting that mere possession of power is not enough: "The successful use of power is a matter of tactical skill rather than merely of possession." (Pettigrew, 1973, p.230). However, this power is used to achieve access to and influence over those with the

power to decide - the senior executive, the managing director, the owner. The final decision on innovations is taken by the individual in control. Thus Burns & Stalker pointed to "the extraordinary importance ascribed to the personal qualities of the managing director or general manager of the plant." (1961, p.211).

Nevertheless, the information on which for instance the managing director takes a decision will be the mediated product of the organisation's political and status systems and will depend on whether communication of information and cooperation has been facilitated or impeded. Even though the political and status systems operate within a situation where the real control and power is at the top, the importance of the former should not be underrated- the amount and reliability of information will reflect their operation.

A number of other variables, internal to the organisation, will also affect the flow of information through an organisation: the division of labour, the structure of the organisation, the reward system and promotion prospects, the degree of centralisation, size, as well as the quality of management. (For a more extended discussion of these, see Havelock, 1969; Burns & Stalker, 1961).

For instance, Hagerstrand's comment that "The information that reaches an individual and the influence he can exert are both a function of his particular position in the network" (1968, p.176) is obviously relevant to organisations as well, given Baker's finding that "most of the technical literature that goes into a firm does not go any further than the senior manager." (1959, p.29). But if, for instance, it is someone lower in the organisational hierarchy, such as a social scientist, who receives the information, it is conceivable that the information never even reaches

senior management. Similarly, factors relating to the gatekeeper and opinion leader in an organisation such as training, orientation, location in the organisation, will influence the flow of information. The notion of a 'gatekeeper' in the transmission of information is one which has enjoyed a great deal of popularity, especially in the USA. A 'gatekeeper' is one who, by occupying a strategic position can control the flow of information to others. An opinion leader, on the other hand, can influence the opinion of others on information which is received. A gatekeeper's actions will affect what is received, an opinion leader's actions will affect how information is received. While the role of gatekeeper can easily be overstressed (see Murphy, 1976, for a discussion of this point) - information may be picked up from other sources (Pettigrew, 1973, p.29). To the extent that an individual can control the flow of information, his or her role may be important. It is the opinion leader, however, who may decide whether the information from the gatekeeper is considered or neglected and this role may be just as, if not more, critical. If opinion leadership is related to the position in the hierarchy of a department, it may be that departments concerned with social science, having closest affinity to research and development departments, (in Perrow's schemata) seldom acts as or contains the opinion leader. Thus "If, for example, a personnel department is seen as the appropriate one for 'keeping in touch with' social science research, the use that is made of the results is likely to depend on the prestige the department has in the organisation, the effectiveness of its communication with other departments and the professional competence 'to develop research into a usable form' of its members." (Cherns, 1969, p.214-5). Nevertheless, the tactical use of power may redress political imbalances in departmental power for the less prestigious departments.³⁵

Information flow into organisations, as distinct from information flow through organisations, is affected by a number of factors. Baker, for instance, found that membership of a trade research council positively affected the level of knowledge about technical ideas at all levels in the organisation (1959, p.1). The presence of a research and development department may mean that firms "keep well abreast of research elsewhere through a skilled knowledge of the 'communication network of science and through informal contacts'." (Carter & Williams, 1957, p.35). However, in the absence of an R & D department, the organisation may well be highly receptive to information from technical journals, as Carter & Williams suggest. Of course, knowledge of current research does not mean that the knowledge is used (Bennis, 1966, p.104) - the factors affecting the throughput of information in the organisation may come into play here. Again, many of the factors affecting throughput of information will affect the input of information: structure, leadership, size, etc. But there are, a number of extra-organisational factors to be taken into account: economic conditions, competition, unsolicited consultancy, contact with other firms. Similarly, "The fear of being judged inferior - on rational or irrational grounds - serves to inhibit the approach of a lower status organisation toward another for information." (Havelock, 1969). Contact with other firms may be important, as may geographical location. Thus, Baker noted: "Awareness of information issued by the Cutlery Research Council spread rapidly throughout the industry due mainly to the close concentration of the firms in Sheffield and the sub-division of manufacture amongst several firms." (1959, p.2). Interfirm contact at conferences, management association meetings, seminars, training courses, etc. may also foster the exchange and flow of information but this aspect remains little researched. Certainly, inter-firm contact seems, a priori, to be most important regarding information

diffusion and innovation - not only because personal, face-to-face contact is important in conveying attitudes to, as well as, information about, new ideas etc., but also the similarity in backgrounds, orientation, problems faced by members of other firms, may make such information highly salient and credible. Parkinson, for instance, found that 36% of his sample approached someone else in the industry for advice on their opinion when seeking information on a new machine, and 55% said someone in the industry had contacted them for advice on their opinion. (1975, p. 33)³⁶

Carter and Williams identify three types of firms by their readiness to give and receive knowledge: the parochial firm - self-satisfied in its isolation; the adoptive firm - receptive to new ideas but relies on outside sources; and the non-parochial, non-adoptive firms which "have a well-developed system of information and their scientific, technical and sales staff are encouraged to have wide interests and to keep their eyes and ears open for anything which may help their firm's progress." (1957, p.110). The type of ownership and its impact on promotion prospects, the reputation of the firm in attracting talent; the existence of other progressive firms ensuring a supply of talent, are some of the factors which influence the approach taken. There may be many other factors involved, such as size, product, method of production, etc., which affect this aspect, but the classification may help distinguish between the approaches taken by different firms to research, etc.

As with information flow into and through organisations, a number of similar factors have been identified regarding attitudes and responses to innovations: size, type of industry, quality of management, profitability, liquidity. Mansfield, for instance, found that large firms were probably quicker than small ones to use a new technique and that the profitability

of the investment in the innovation affected the spread of its adoption, yet he found no evidence that the financial health of the firm affected innovation decisions. (1963, p.309-10). On the other hand, Markham found "innovative effort is heavily concentrated in oligopolistic industries" (1965, p.326). Technical leadership, i.e. how rapidly an organisation adopts one and then another innovation, appeared to be slightly greater in the steel industry and less in coal, brewing and railroad industries in the USA (Mansfield, 1963). However, as Mansfield goes on to point out: "Firms with aggressive managements often lose their taste for pioneering as those managements grow older or as others take their place, and laggard firms sometimes change their ways because of an injection of new blood and capital. With the passage of time it becomes increasingly likely that those that were particularly receptive to change in the past era have given up this role to others." (Mansfield, 1963, p.303, Footnote 7). Aiken & Hage, however, report "the finding that innovative organisations have a history of innovation" (1971, p.80).

But it may be the act of innovating, rather than the content of an innovation which is important: "Considerable prestige and social status is attached to a person who innovates, the person who expands the horizons of knowledge and introduces that knowledge to society as an innovation." (Knight, 1967, p.489).

This point may be particularly relevant in respect of social science - (see, for instance, the amount of publicity given to Volvo and the euphoric terms in which its management is often described) - and to an extent attention to and use of social science might reflect a wish to appear forward-looking and innovative. In itself, this explanation is not convincing. No-one is going to use social scientists or their expertise at random, possibly upsetting their organisation in an attempt to appear 'progressive'. It is more likely

that an organisation is faced with a persistent and interactable problem to which, they become aware, social science may offer a solution. These non-routine innovations are of two types: the 'slack' innovation where the organisation is under no pressure and is 'quite pleased with itself', innovating to 'keep ahead', while the 'distress' innovation will result in a much wider search for solutions, in line with the degree of 'distress' experienced. In the latter case the firm will take more radical measures and a more random search (Knight, 1967).

Of course, not all research is initiated by industrial organisations, many projects are initiated by researchers (for examples of how and who makes these approaches see Brown et al, 1976). There seems to be no lack of research hungry institutions. Often the mediator in this relationship is the social scientist employed in the organisation (Cherns, 1976, p.245) and the importance of a social scientist in an organisation should not be overlooked.³⁷ However, very little is known about why organisations employ social scientists, whose idea it is, who approaches who, etc. - all questions worth investigating. Is it because of a specific individual in a strategic position; does it come from the 'top'; is it because a similar organisation has already done so, etc. etc.? It may be that it is contact with researchers and the feedback from their research plus a discovery of what social science has to offer - which fosters further use of social science and social scientists, assuming of course, the initial contact is favourable.

Managements may use social science because they have succumbed to the sales technique of some consultant organisation. Even in 1969 "The number of services being offered to industry was increasing at a bewildering rate. Not a week passed without yet another advertising brochure offering yet another solution to the human problems of industry" according to Klein (1976, p.198). This bombardment is unlikely to have shrunk in size but

there is no research or evidence as to its impact. Presumably large 'mail shots' are not undertaken by consultants unless there is a fair return on the outlay.

All the 'suggested' influences on social science diffusion clearly indicate that exceedingly little is known about the diffusion and consumption of social science. Nearly all the findings regarding information flow, diffusion, innovation are concerned with technical information or techniques. There is no reason why social science or other ideas and areas of knowledge should be diffused and consumed in the same way. Technical practices are identifiable and visible; ideas may be neither - their presence may be hidden and their influence questionable. Ideas can infiltrate and that infiltration be unnoticed and unintentional. Ideas are, after all, what propaganda is all about. Thus whether the size of organisations, profitability, type of management organisation is relevant to social science diffusion is very much an open question. The information from the technical side of diffusion can only be suggestive of possible factors.

(ii) Individuals - Factors in Consumption

A large number of studies in the USA in the field of rural sociology have focussed on the individuals who adopt innovations. While "Being in an organisation influences the behaviour of every participant" (Knight, 1967, p.483) and organisational variables must be taken into account, it is individuals in organisations who make decisions regarding social science whether as innovators, opinion leaders, gatekeepers, etc. A focus on individuals is interesting not least because a typology of 'adopters' of innovations (similar to the types of firm identified by Carter & Williams, 1957) has been constructed. Five ideal types have been identified by

Rogers, (1971):

1. the innovators - the venturesome, eager to try out new ideas and likely to have cosmopolite relationships.
2. the early adopters - the respectable, most likely to be opinion leaders.
3. the early majority - the deliberate, who have frequent interaction with their peers yet are rarely opinion leaders.
4. the late majority - the sceptical who adopt from economic necessity or social pressures, and,
5. the laggards - the tradition oriented, more isolated and suspicious of innovations. (Rogers, 1971, p.182-4).³⁸

Many variables have been shown to be salient to the categories of adopters. The amount of exposure to interpersonal channels of communication (Rogers and Beal, 1957) the amount of exposure to mass media (Rogers, 1971, p.348); social status, education, size of operating unit (Rogers, 1971, p.195-6), etc. Again "innovators and other earlier adopters utilize more impersonal sources of information, whereas the laggards used more personalized sources of information." (Rogers & Beal, 1957, p.333). The 'cosmopoliteness' of the individual, i.e. how much the orientation is external to a particular social system appears also to be a factor. (Eicholz/Rogers, 1964, p.313-4). Of course, it should be remembered that not all sources of information are available to the various types of adopters. For instance "The early adopter of necessity must rely on the mass media and professionals, because local farmers will not have heard of or tried out the new practice." (Copp et al, 1958, p.154).

The differential use of information sources was also found to be relevant to the various stages in the adoption of an innovation. The notion of stages is merely a conceptual framework for organizing the data (Copp et al, 1958) - and the number and variety of stages differs from author

to author.³⁹ Broadly speaking the process consists of; awareness; interest/information; evaluation or application; trial; adoption. For instance, mass media were found by Copp (1958) to be very important during the awareness stage and less so at the interest stage where face-to-face influence was more important. Peer influences are important at the acceptance stage while at the trial stage, printed (circular letters and bulletins) and oral sources (meetings, farm visits, demonstrations), regained importance (Copp, 1958, p.151). Wilkening found that 70% of his respondents cited the mass media as the source for first hearing about new ideas in farming (1956, p.365). It is worth noting that interpersonal influence was found to be conservative yet "the word of a trusted friend or a respected colleague is a requisite to action." (Katz, 1968, p.182). Whether or not these findings are relevant to the activities of organisations as well as to individual farmers, they do suggest a number of fruitful lines of enquiry.

(iii) The Ideas Themselves

It would be easy to forget that "The reception given to a new idea is not so fortuitous and unpredictable as it sometimes appears to be. The character of the idea is itself an important determinant." (H.G. Barnett, 1953, p.313).⁴⁰ What are the salient features of innovations which affect adoption or rejection? Rogers, (1971) identifies them as follows: relative advantage: "The degree to which an innovation is perceived as better than the idea it supersedes." (p.22) on whatever criteria; compatibility "With the existing values, past experiences, and needs of the receivers". (p.22); complexity - how easy it is to understand and use; trialability (or divisibility) - "The degree to which an innovation may be experimented with on a limited basis." (p.23); and, finally, observability "The degree to which the results of an innovation are visible to others." (p.23). Not all these

aspects have been found to be equally relevant (see Fliegel & Kivlin, 1962, p.367). Aspects of the individual's or organisation's situation can be seen to be also relevant, e.g. tolerance of risk, size of organisation, and ability to wait for a return on an investment. But there is neglect in Rogers' analysis of such mundane factors as cost, time saving, etc. (for a list of these see Fliegel & Kivlin, 1967, p.85). Similarly, the simple motive of profit is ignored, and profit is the very basis of any capitalist enterprise's survival.

Also investigating the dimensions of ideas, Baker reports that apart from cost considerations "it would seem that the small firms prefer the type of ideas that give assistance in the present methods of manufacturing but do not radically alter the nature of the job. In contrast to this, the larger firms seem to be looking for ideas that do alter the method of manufacture by reducing the control of the worker". (Baker, 1957, p.27). This finding is most intriguing regarding the theories of social science. Thus, regarding the ideas which are presented, even although the range of ideas is mediated, factors such as relative advantage over existing practices, economic considerations, implications of an idea, etc. may be important aspects in adoption or rejection.

(iv) Evidence Available on Social Science

We seem to have little idea about how much knowledge management has about social science. Many claims (generally unsupported by evidence) have been made regarding the impact of social science. Dunnette & Brown, (1968) however, undertook a study in the USA to try to discover what behavioural science contributions in the form of articles and books were best known and regarded as most significant by senior executives. Senior executives were

chosen, having been identified by an independent group of industrial psychologists "to be persons acutely attuned to contributions by behavioural scientists." (Dunnette & Brown, 1968, p.183). The independent group of 45 industrial psychologists judged the articles and books nominated by a different independent group on various dimensions (see Dunnette & Brown, 1968, p.179) and the final list of 33 articles and books were sent to the 200 executives. "The most startling and distressing aspect of these executives replies is that only a small proportion of them have even heard of many of the books and articles nominated as 'most significant' by the 45 men actively engaged in research or practice in industrial psychology. Even fewer have any first hand knowledge of the specific nature of the contributions, and only a negligible number state that the contributions have significance for the actual conduct of business." (Dunnette & Brown, 1968, p.180 emphasis in original). The impact of such information on senior executives is hardly impressive then, and it would seem reasonable to suggest that in Britain the findings would be similar, if not more startling given the much greater amount of training in the USA. Of course, as Clark, (1972B p.9) points out, executives do not typically read the ASR or EJS and many attempts are made to convey research findings to management in an easily digestible form. But even this may be unsuccessful given Stewart's (1967) finding that "Most of the managers spent very little time on reading work literature that originated outside the company. The average was only 2%. Many read little or nothing." (p.41).

But interest in social science is surely tied to perceptions of academics and social scientists by those in industry. Some organisations are downright hostile to universities and academics "either because of their general image as hotbeds of radicalism and student unrest or because their interests

were seen as frivolously academic and of no practical use." (Platt, 1976, p.44). On the other hand, some organisations such as Shell and BP actively seek links with research centres and seek a continuing institutional relationship. Cherns relates that one Personnel Research Manager "had a shopping list of projects and through his own contacts and attendance at scientific meetings drew up his own short-list of probable research centres. Indeed his long term aim was to develop a continuing institutional relationship with one or more research centres." (Cherns, 1976, p.246). So contact is not only initiated by researchers (Jenkins, 1976) organisations are sometimes aware and keen to use academics. But there seems to be a continuing antipathy to the academic in some quarters, exemplified here "the academic works in a cocoon, the manager in a pressure cooker." (Ford, 1978, p.20). Some commentators, however, see social science as making little impact, where studies "mildew in inaccessible journals" (Bennis, 1966, p.208) whereas others see signs "that in important sections of industry hostility and apathy are being replaced by an interest that is leading, not merely to collaboration, but to positive initiative by industrialists." (Seear, 1962, p.180). Again "The behavioural sciences have made stunning progress in management education. In less than one decade, they have not only infiltrated the field, they have secured a firm foothold, in all the leading centres of management studies." (Reference here is to the USA - Bennis, 1966, p.181).

Despite all the research that has been looked at here, exceedingly little is known about the impact of social science. Indeed, does it have any impact? If so, how, to whom and in what guise does social science reach managers and what do they think of it?

Two different lines of inquiry are necessary to tackle these broad questions. Firstly, to find out how ideas evolve in the process of diffusion. This will be best approached by tracing the career of one specific idea to see how much, and what coverage it has received so that an appreciation of the type of social science that reaches managers can be obtained. At the same time through this, the dynamics of the linking process can be illustrated showing who writes on the topic, where it is presented, when, and, most importantly, how. By contrasting the presentation given in publications with the understanding which managers have of a specific idea, this will demonstrate how one part of the diffusion process operates. Logically, this brings us to the second approach which is required: to investigate an industrial audience. Again, the focus needs to be specific. Questions must be asked of managers in the same industry where conditions and traditions are similar. (Although a comparative study would be rewarding, it is prevented by limited time and resources. An in-depth study of one industry will be more revealing than a superficial look at a number of industries.) Having focussed on the linkers and the channels they use in relaying the idea, managers can be asked about the information which they pick up, which sources they use and the extent to which they are used. As the research was designed to look at the process of diffusion - the presentation and reception of one idea to one audience, the way in which an idea filters through to its audience can be charted.

Given that the focus has been decided, within what framework of questions can the research be undertaken?

(v) A Framework

A review of the literature has suggested a number of aspects which may be important in the diffusion of ideas and whose influence is worth investigating. On the linking side, attention has been directed to a number of areas e.g. the multiple and interlinking roles of linkers; their backgrounds and qualifications. The influence of peers and audience - how feedback is received and its importance. The use made of linkers and their services as well as contact with industry. How, who and why topics are chosen and presented, etc. Potentially important aspects of consumption have also been identified such as, the type, quality and training of management; the organisational structure and climate; location of decision-maker(s); the membership and use made of information-giving bodies- availability and use of internal and external resources; the climate of the industry and relations with other firms; the amount and type of contact with various linkers; information input; the perception of academics and the social sciences; attitudes to innovating; the type of innovations used.

All the aspects brought out in the literature, taken together, help construct a framework for the diffusion process but the crucial and uninvestigated influence of political and economic factors must not be forgotten. It is the neglect of these factors and a focus on the mechanical aspects of diffusion which makes unsatisfactory, available models for the production, linking and consumption of ideas (for an excellent review of these, see Havelock, 1969). Thus the areas for investigation abstracted from the literature are at best limited and may even obscure, by diverting attention from, the operation of less easily traced influences. Previous commentators have noted the existence of such factors.

Havelock in his review of the literature notes the need for a conflict model of the dissemination and utilization of information and the need to take an economic approach viewing knowledge as a commodity. But Havelock does not develop such an approach himself and notes that no-one else has either. (In his own model these aspects are again omitted). Similarly Rogers (1971) (another important figure in the field) has pointed to the need to study political factors in diffusion and he suggests "The elite are inclined to screen out innovations whose consequences threaten to disturb the status quo, for such disruptions may lead to a loss of position for the elite. The 'dangerous innovations' are often those of a restructuring nature, rather than new ideas which will affect only the functioning of the system." (Rogers, 1971, p.340). Rogers also notes "the power elite make gatekeeping decisions regarding innovations in terms of their own welfare, rather than altruistically for the benefit of the entire system." (1971, p.342). Although both these commentators are aware of the exercise of political power, neither suggest how and where that power operates in the diffusion process.

In the models of diffusion which have been constructed and upon which much research has been conducted, attention has focussed on the technical aspects of diffusion - the nuts and bolts - and the wider processes, the insidious and subtle influences go unnoticed. Diffusion somehow seems to take place outside the society and culture - it is seen as a mechanical operation with perhaps some recourse to the psychology of individuals - it is not seen as a social process.

Subtle and insidious influences on the presentation of ideas do exist as media studies have shown. These findings should be borne in mind when considering diffusion. According to McQuail (1969) there has been a decline in press partisanship in the post-war period. Undoubtedly, the press is both

cynical and suspicious of the activities of governments. Government pressures are resisted, scandals are exposed, and many members of the press adopt the role of 'watchdog'. But protestations of the public's right to know, conceal the fact that many issues do not achieve the public airing they deserve (e.g. defence correspondents failure to discuss major expenditure on new missiles reported in the t.v. programme 'The Editors' - August 1980). Although there is a tendency for the various branches of the media to take up issues discussed by another (e.g. newspaper reporting of TV programmes and characters; radio discussion of newspaper content, etc.), what is neglected in one place may be taken up in another. While the increasing financial interests of newspaper owners in TV and film companies may be a real cause for concern in limiting the terms of popular discussions and defining what issues are to be of concern, there are other, less influential, channels: books, professional association publications, conferences, seminars, teaching etc. Of course it could be argued - with some weight - that these media tend to take their lead from the coverage given in national publications and media, only occasionally presenting a topic first.

Thus while Rogers maintains that the elite screen out dangerous innovations, this can be seen to be a somewhat naive view. Those who produce and those who link, in particular, have paymasters and respected seniors who share with those who have power in government, industry and commerce, a common set of assumptions and world view. The decreasing number of newspaper owners, the 'seeping down' of the owners' political preference, the lack of breadth in the political leanings of newspapers (and t.v., see Glasgow Univ. Media Group, 1976) are factors in media production which speak for themselves. The agenda-setting function of the mass-media

(McCombs, 1972), the creating of awareness, the setting of the parameters of debate, do give the mass media a great deal of control and influence ⁴¹ in defining what is salient. But it is not a conscious screening out of dangerous innovations. It is a case of presenting what has been acceptable, guidelines are taken from the past - the way things have been, the successful formulas are repeated, the status quo maintained. McQuail suggests that the process of selection and editing of content "is guided by the prevailing laws and social norms, and generally to turn the mass media into agencies of control, which reinforce dominant cultural and institutional patterns." (McQuail, 1969, p.13). Not surprisingly, it is the existing which is stressed, not alternatives. Any threats can be dealt with, the world can be controlled: "at the end of the major (TV) bulletins, the newscasters almost always shuffle their scripts into a neat pile and cap their pens. Order is imposed. The ungodly continue ungodly but the audience can sleep easy - the window on the world reveals an unchanged and unchanging view." (Bad News, p.38).

It is, then, change and changes which are avoided. And it is this factor which ensures that the interests of the elite are not countered by linkers and producers. As Simmel reminded us earlier (see above) change can only harm the highest classes, they cannot enjoy any greater measure of power and thus change is to be both feared and avoided. Thus, there are reactions against the new - that is, unless they can be translated and incorporated into present and past taste. And the linkers and producers need, after all, to please their paymasters. As Horowitz points out: "The sources of funds for research tend to be

exclusively concentrated in the upper classes." (cited in Nicolaus, 1969, p.380). A similar comment could be made with regard to the finances of linkers.

The content of the media may also leave much to be desired. First of all, the focus on the trivial and the sensational has been noted in T.V. reporting of industrial relations (Glasgow Univ. Media Group, 1976) and in the reporting of science (Wood, 1962). Both charges are serious. They mean that fundamental questions tend to be ignored while issues are trivialised - the parameters of debate are simultaneously narrowed. And sensationalism means that the mundane - the everyday, taken-for-granted problems - are not discussed while attention is diverted to the titillating tidbits. It is not the fundamental or serious issues which tend to be discussed, thus there is little or no debate about, or criticism of, underlying structures. The discussion of real and meaningful changes is avoided - a situation, which, if Simmel is correct, well suits the elite. Important here then is not what is discussed but what is not discussed.

Such comments should also be considered in relation to the production of ideas. Thus a similar argument could be constructed around the topics of research favoured by government and filtered through the system of research funding. It is unlikely that ideas of a 'restructuring' nature are given approval and, more importantly, any funds for research. Not surprisingly, it is ideas which do not confront the existing state of affairs but work within it which receive funds. The presence of research finance means that researchers will be attracted to the topics suggested by the government agencies. And, to the extent, that earlier research gives the lead to later research, 'areas of growth' mean that not only in the present, but also in the future, other areas suffer from relative neglect.

To the extent that businessmen are seeking ideas that will help them succeed in their goals, it seems likely, given the above, that services, ideas and theories appropriate to their needs will be in abundant supply. It will be interesting therefore to discover what use businessmen make of them. But general statements on diffusion are insufficient. In order to understand the diffusion of industrial sociology, the industrial context must be taken into account. Research which does not include a look at the industrial context within which people operate will be both flawed and neglectful.

Although lines of enquiry have been suggested, it became obvious that the research would have to be exploratory in nature. Not only was it impossible to judge beforehand what factors would be relevant to the diffusion of industrial sociology in Britain, but also the absence of a directly applicable framework made a more closely defined research project out of the question. Accordingly, a tentative approach had to be taken - lines of enquiry being suggested as the research progressed.

CHAPTER TWO

Autonomous Work Groups - An Examination of the Idea

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AUTONOMOUS WORK GROUPS - AN EXAMINATION OF THE IDEA

Autonomous work groups (AWGs) is the specific notion which has been selected in order to trace the diffusion of industrial sociology. What has happened to the idea as it has been diffused? Is there a selective presentation of the elements of the idea? Are the more radical elements neglected and the more prosaic aspects popularised? How much attention has been given to the notion of AWGs? How, where and by whom is such an idea diffused? What, in a nutshell, does the process of diffusion mean for such an idea? Before looking in detail at the presentation of the idea in various publications, it will be worthwhile to examine closely the whole notion of AWGs - to discover its potential and then to find out what aspects have been emphasised and what neglected. In this way, more information about the selective picking up of ideas can be obtained.

(a) WHY AUTONOMOUS WORK GROUPS?

There are a number of reasons why the idea of AWGs is suitable. It is, firstly, an idea which explicitly emerged from the workforce. The idea did not emerge from social science as a technique for managing the workforce but an idea which has been formalised by social scientists, being first written up by Trist and Bamforth in their paper "Some Social and Psychological Consequences of the Longwall Method of Coal Getting" (1951). Of course, the importance of the role of social scientists in presenting and formulating the concept should not be overlooked. It is likely the idea would have remained in relative obscurity, existing as a working practice, known only to and perhaps protected by a section of the workforce were it not for the attention of social scientists. Secondly, the idea is currently

enjoying some popularity. Indeed, it appears to be fashionable to apply the concept and publicity has been gained and mileage obtained from the application of the concept, e.g. Volvo's advertisement to the effect that happy workers make reliable cars. Thirdly, the idea is distinct from other theories currently being propounded because it stresses the group aspect of working. Because of this, its development may be more easily traced. Finally, the idea contains a number of elements some of which appear to have been taken up while other aspects have been neglected. Analysis of these parts can show the implications of various aspects for the workforce and organisation, and the repercussions of selective use of its components.⁴²

(b) A BRIEF HISTORY OF THE IDEA

Initial formal expression of the idea was given by Trist and Bamforth (1951) of the Tavistock Institute of Human Relations and the idea was later applied, e.g. Rice in Indian textile mills, (1958, 1963), Trist et al. in coal mines (1977). For a few years the idea of awgs was little mentioned and its impact apparently negligible. However, in the mid 60s, the idea was taken up in Holland under the term 'work structuring' (Philips 1968) also used later as part of a scheme in Norway (Emery & Thorsrud, 1976) to improve experience at work and worker participation. Thereafter, the idea was picked up in Sweden where it has achieved widest publicity in the applications at Volvo and Saab⁴³ (whether or not the experiments actually constitute awgs is quite another matter). Since then the idea has become popular receiving a mention in the press, magazines, radio and television as well as in social science publications. The idea has been greeted as the answer to many of the problems faced by industrial and other organisations by both critics and defenders of the industrial order. But does this idea offer anything new or radical or is it merely a variation on old themes?

Does it offer benefits to the workforce as well as to management or is it merely yet another in a string of strategies to obtain the cooperation of the workforce or at least blunt their antagonism? Is it just another kind of productivity deal exchanging a little more money for a lot more effort?

In order to examine the diffusion of the awg concept it is of interest to examine the component parts of the idea as it was originally presented (but not neglecting more recent developments) in order to investigate the potential of the idea radically to transform relationships in the sphere of work or to alter substantially the power and control of management.

(c) THE IDEA ITSELF

Very briefly, the awg concept is of a small, self-selected and self-organising group of workers. The group members are interdependent and the group as a whole completes an entire cycle of operations. The group makes a contract with management but is independent of management in the organisation and method of working. Each of the group members possesses the skills of the others, that is, they are multi-skilled workmen, and group members share equally in a common paynote. In the more formal presentation of the idea, the central notions are those of responsible autonomy for a whole work task, freedom from close external supervision, interdependence of group members, the importance of the group being self-selected, sharing a common paynote and of group members being multi-skilled.

(i) Whole Task

One of the main aims of awg theory is to reverse the trend towards specialisation at work. So instead of performing one operation the worker will perform a number of operations which make up a 'whole task' or a 'complete cycle of operations'. The aim is for each member to carry out

all the tasks undertaken by the group as a whole so the worker becomes multi-skilled instead of single-skilled. While the term multi-skilled may be something of an exaggeration (does the performance of six simple operations instead of one simple operation constitute a skill?) the greater variety, the opportunity to use different abilities, and the performance of a 'whole task' instead of a fragmented one may well contribute to decreased dissatisfaction with work. The ability to carry out a number of tasks no matter how small may well enhance changes on the labour market through wider experience, etc., help resist redundancy as a result of the greater investment by the organisation in workers through training, and increase job security through the realisation of workers abilities and their correspondingly greater flexibility.

It is worth considering the nature of the tasks which might be included in the functioning of autonomous work groups. Much emphasis has been placed on the 'whole task' apparently performed by awgs, yet the dimensions of a whole task remain obscure. Is the completion of a part of the final product a whole task as in, say, the electrical system of a car? Or does it refer to the completion of a finished product? The problems in the latter case given modern production methods are obvious. It may be that coal-mining presents one of the few occupations in which a whole task is fairly well delineated, and some re-thinking of the concept necessary for more advanced technologies. This, of course, has been done by some Tavistock writers, but in many cases the whole task appears to amount to little more than job enlargement - doing a greater variety of operations; or, job rotation - performing any one task for a limited time only, neither of which is likely to be very successful. The addition of tasks which others have previously found boring is hardly likely substantially to reduce boredom and monotony. In other cases, maintenance and minor repairs of machinery are included as

well as quality inspection, the ordering of materials and cleaning of the groups work area. Whether any or all of these additional duties may result in the 'craft pride and artisan independence' which Trist and Bamforth sought is a moot point. Certainly there is a greater chance of using one's abilities, of learning more, of gaining wider experience. Similarly, one may gain in status if one's job is seen as more skilled, both within and outside the organisation (see Sadler, 1970, p.22). And to the extent that the group is free from close external supervision then the job may well be seen in a better light. Yet the maintenance required for some machines may be minimal and repairs carried out by the group only the minor ones. While the ordering of supplies from the stores and quality inspection may be welcome additions there is not really very much room for initiative. The amount of extra training required to carry out the additional tasks may be a good indication of the increased demands of the job. But it seems unlikely, a priori, that in comparison with the craftsmen who underwent extended training, who depended on experience as well as skill that the inclusion of a few additional tasks will result in a similar experience of work. However, given the possibly reduced expectations of a workforce accustomed to the debilitating conditions of the assembly line, it might be possible, at least in the short term, for the inclusion of additional tasks to be viewed as a real improvement (see Daniel, 1969A).

Of course, this, like other aspects of awgs will depend for its impact on the orientations to work of the workforce, e.g. economically oriented workers are unlikely to be enthralled by attempts to improve aspects of work other than pay especially if they perceive there to be some trade-off against financial benefits.

(ii) Multi-skilled

The aim of men being multi-skilled is to have equivalence of skill between group members (the common paynote being an offshoot of this) with the result that group members are interchangeable. In other words, where there is no specialisation there is no irreplaceability. The absence of one group member is not crucial to the performance of the task in hand. (The benefits to management of this aspect of awgs becomes obvious regarding coping with absenteeism and labour turnover problems.) The easily replaceable worker has a weaker position in the organisation, his bargaining strength is much reduced by the presence of others able to do his job. Where there is a reserve pool of trained workers, ready and willing to fill empty positions, the security of those employed is correspondingly weakened. Those whose faced 'do not fit' - the radical, the militant, the undesirables (for whatever reason) - will be more easily fired.

Of course, the group may operate its own division of labour, allocating one task to a specific individual but this would render the group vulnerable to absenteeism, and possibly cause them difficulty in meeting the contracted production level. Here then it becomes apparent that the burden of absenteeism is now borne not only by management as before in lost production but by the work group itself. For the earnings of the group may be adversely affected by absenteeism and it may now be in the group's interest to pressurise its members not to go absent without good reason. So now, absenteeism becomes a 'problem' not only for management, but for the work group as well. And the individual, instead of bearing pressure from management, is now more likely to have to bear pressure from the group which it may be less easy to resist.

Through training or preparing men to carry out a number of jobs instead of just one, the flexibility of the individual is increased. There will be less resistance to the addition or changing of two or three elements of a job than in changing the whole job as previously would have happened. Thus workers are more able to meet technological change, to be more adaptable to changing industrial environments or methods of working and, as a result, less vulnerable to the winds of economic change. Management also benefits from the greater flexibility of the workforce in, for instance, meeting market demands for a wider range of products or to meet the rising rate of obsolescence in consumer and other goods. Benefits can also be realised by management through encouraging multi-skilled working. To the extent that maintenance or repair tasks, quality inspection, or administrative tasks are included in the work of an awg, then there may be an erosion and possibly even eradication of demarcation lines - a problem which for management has been intractable and causing great concern in recent years due in part to the increasing rate of technological change. The disadvantages to management of having workers in whom greater investment has been made in training is the higher potential cost of labour turnover and the need for greater care in selection. But in broader terms it does mean that management can more fully utilise the human resources at its disposal.

To the extent that there are a number of multi-skilled groups performing the same task, then the strategic importance of a specific group is much less than under assembly-line working with task specialisation. Thus the ability of a small group to disrupt operations of the department or the organisation is much reduced. So management, through the use of the multi-skilled idea, may find that not only are labour turnover and absenteeism

easier to deal with but also that they are less vulnerable to strike action, to go-slows, and to disruptions generally. The possibility of worker resistance being effective is much reduced. Of course, this also depends on the degree of solidarity between groups. But to the extent that management can contain worker resistance through awgs, their control of the workforce is increased.

(iii) Foremen/supervisors

A far-reaching aspect of awgs is the erosion of the role of foreman or first level supervisor. While in some cases the role may be altered from one of supervision to one of maintaining boundary conditions enabling the smooth functioning of the group, in others the role of foreman may disappear. In both cases the foreman's tasks devolve upon the group which now organises its own work load, and/or checks quality, and/or undertakes ancillary tasks such as some paperwork. Quite apart from the obvious repercussions at foreman level, e.g. redundancy, transferral, and for the lucky ones, re-training to carry out their altered role, there are a number of other facets. Firstly, the promotion opportunities of shop floor workers will be reduced as the distance to the next level in the hierarchy may be much more difficult to bridge without formal skills. Secondly, to the extent that foremen operate as the eyes and ears for management, management will have to seek another way in which to remain informed of the climate on the shop floor - hence the great emphasis on consultation between groups and managements in implementations of awgs. The absence of foremen may mean early warning signs of trouble go unnoticed and disputes reach intractable proportions before being tackled. Thirdly, disputes within and between groups are likely to arise. Who is to arbitrate in these? For instance, the role of shop steward may be problematical insofar as he himself is a group member. Thus in

intergroup conflict or antagonism his role may be very much restricted by his own group membership. Finally, if there is a greater distance between men and the first level of management, is this likely to cause work groups to see the position/problems of management with greater or less sympathy? (This is also related to the group's autonomy where blame for problems encountered may be internalised rather than externalised.)

While management may suffer from having less information regarding the shop floor it will benefit financially from having fewer or no foremen - savings which are unlikely to be eroded by small extra responsibility payments to awg members if and when these are negotiated, or by the re-training costs of a few select foremen. For the workforce, apart from the reduced promotion opportunities, the erosion of the foreman's role means greater responsibility. There is much less close external supervision, both of these factors resulting in greater freedom in task performance and in behaviour. The absence of supervision as such, of not being checked and scrutinised in every action is likely to be a welcome change. Of course, management may interpret the use of the greater freedom on the shop floor as a lack of discipline which they might find unpalatable but may bear it in view of the arguably greater overall control which management enjoy.

(iv) Responsible autonomy

A distinguishing feature of awgs is the concept of responsible autonomy - that the work group enjoys autonomy in organisation and performance of its work, and responsibility for the group's production (and responsibility to other group members in this respect). Being free from close external supervision and undertaking a whole task, the group is likely to have 'craft pride and artisan independence'. The degree of

autonomy or responsibility depends very much on the role of the foreman as well as on the content of the job. If the work of the group is closely checked and directed as to when and how much should be produced, then the group can hardly be responsible or autonomous. At the same time, if the group is dependent on the skills of others such as maintenance and repair staff in order to maintain its production, it would not appear to have a great degree of autonomy. But this acts to remind us that a work group can be autonomous and responsible only in part for it must always rely to some extent on outside specialists in a technologically complex environment. Also a group does not exercise autonomy in deciding what it produces, where it produces, the technology used. Even if it is a self-selected group, the population out of which it can select members is chosen initially by management. Similarly, decisions on future production, type, amount, markets, investment programmes etc. are all decided by management (Moore, 1977, p.2). These and other factors indicate the fairly low level of autonomy that can potentially be enjoyed by awgs. Certainly it is greater autonomy than that perhaps previously experienced (though this is open to debate, for in some occupations such as steelworking, docking and printing (on printing industry see Sykes, 1967), a fairly wide range of autonomy and discretion has been enjoyed through the struggles of the workforce to gain greater control over its working arrangements). Nevertheless use of the term 'autonomy' can be misleading. Awgs operate in conditions and under constraints not of their own choosing (not least being the basic constraint of having to sell one's labour). Similarly, responsible autonomy is something which is given by management, it is allowed - it is not inherent in the task. It is the giving of some freedom in an arena where the rules and the outcomes are decided in advance and to which limits have carefully been set. Thus in large parts autonomy is a mirage, and if attractive, only in comparison with the fragmented, specialised and often mindless work of the assembly line.

However, at a more pragmatic level, greater responsibility and greater autonomy are likely to be welcomed. Greater freedom and perhaps greater dignity can be experienced in the absence of supervision and in having the opportunity to be self-directing for the first time. Men might possibly see themselves as being treated as responsible human beings and respond as such. (That, at any rate, is one of the hopes of some Tavistock writers.) At least responsibility to the other members of the work group is likely to decrease any sense of isolation and enable identification with group members if not to 'the group' as an entity in itself.

(v) Group working

Awgs are distinct from many other attempts to improve working life because the accent is on group working: on group payment, on a group contract with management, on group organisation. Thus members are inter-dependent and rely on one another for the amount of their incomes. Based on the premise that working in groups meets social and psychological needs, the aim is to foster identity with and facilitate the work of others in the group. Also there is the aim to foster task identity and through this, identification with the goals of the organisation. Under individual working (according to Trist & Bamford), men seek to maximise their own earnings, not to facilitate the work of other shifts or to help them achieve their production targets. In individual working, the constraining force is the supervisor. In group working, the constraining force is the group. While this obviously has implications for management control methods, it also has implications for worker discipline. In group working responsibility has been given to the group or a contract has been made with management for a given output or an agreed price per unit. The group is not 'managed' from outside, it manages itself (though it should be noted this does not mean that the group contains a leader as such). Management, it seems, gives up

its prerogative to manage. Group members now respond to the demands of the group, not the demands of management. Is this an improvement? Yes, insofar as group members have a degree of freedom in deciding how they will do a job, who will do it, etc. which they did not have previously. Yet it can also be even more constraining. Strategies to frustrate management purposes are legion, but any strategy to frustrate group purposes is self-defeating. Thus there is likely to be a containment of worker resistance or at least on the lines previously employed such as sabotage and, there is accordingly, a greater compliance of the workforce to management goals. By accepting responsibility for its production, the group becomes more amenable to the constraints involved in production even though some or most are imposed by management, e.g. technology, type of raw materials working environment, etc. It has accepted the conditions under which it is to function. (That it may later come to question these conditions is one possible outcome of giving greater autonomy.) Of course, it may be that through the delegation of autonomy to the group, strategies to counter management goals by the group may be more effective and less easy for management to deal with. Whether greater compliance is fostered or greater opposition is debateable.

It is now the group which appears to make demands, not management. The antagonistic relationship between men and management may be obscured and group members no longer lay blame on management when things go wrong but on the group and their own inability to manage in an apparently 'autonomous' environment. Thus management may come to be viewed in a more benign light. (A goal sought by Tavistock writers insofar as they hoped men and management would come to see their mutual interests.) While the group may foster greater solidarity and recognition of the common situation of workers at an individual level the group may be experienced as claustrophobic.⁴⁴

In an age in which individualism is stressed, those who accept its importance may resent the emphasis on group participation and group functioning.⁴⁵

(vi) Self-selected

In the original formulation of AWGs great stress was laid on the fact that the groups in the coal mines were self-selected. A facet of work group organisation which has not since received much attention since the early work of Tavistock writers. If the composition of work groups is decided by management - on whatever criteria - then it is likely that commitment to the group will be less, at least initially. A group whose members are selected on the basis of knowledge of each others capabilities and weaknesses, as in the coal mines, is much more likely to be a viable group than one whose composition has been decided by management, who may ignore conflicts and antagonisms between individuals, etc. Also, with the aim of giving responsibility and autonomy to the workforce it seems somewhat contradictory to deny workers the right to choose with whom they are to work. Although the self-selection of groups may result in greater trust and responsibility to one's workmates, it may also mean that the economically fit and active select others of similar capacity while the less able, the older, those of ethnic minorities, etc. form their own groups. So there is the possibility of having wide disparities in income in the work force and in creating 'colonies' of different types of workers in organisations. But given self-selected groups composed of individuals with similar capacities, is there a way in which group cohesion and identification can be fostered and the interdependence of group members accepted? Yes, through the use of a common paynote.

(vii) Common Paynote

The operation of a common paynote which is shared equally between all members of the group would appear to foster identity, etc. The idea is based on the reasoning that it is not the amount of work achieved by individuals which matters but rather the intent - that is, equivalence of effort and willingness rather than amount produced. With the concepts of the common paynote and the all-round worker, there are now fewer status and prestige differences between individuals. While there may still remain a tendency for the young and able, the older and less fit to group together, the differences within the group are minimised. The accepted equivalence of willingness and effort means work group members can be seen as equal. There is no one superior to another (in theory at least) and no one inferior. Thus group solidarity can be maximised. Cooperation not competition is fostered between individuals. While the greater solidarity of, and identification with, the group may contribute to higher production it is likely also to result in greater bargaining strength of the group members, there being less chance of diverging opinions (given the minimal operation of group dynamics and the strength of group pressures). Yet at the same time, management may find it easier to deal with a group of workers rather than a variety of individuals (in the same way that trade union organisation may be welcomed by managements insofar as industrial relations can be streamlined or rationalised).

At the same time, the individual is less vulnerable to management arbitrariness - he is protected by the group. While it may be easier to apportion blame for bad products to specific groups the identification of poor workers would no longer be made by management but by the group. Whether or not the pressure of the group or management is preferable to the individual, the group is unlikely to be as punitive as management.

(The question as to whether or not solidarity would be maximised in a group with no internal differentiation is very much open to debate. If there is no division of labour between individuals, there are no identifiable individual contributions to be made (Miller & Rice, 1967, p.259). Thus, it could be argued there is no sense of individual achievement or a specific contribution which an individual can make and for which his presence would be valued. Perhaps, then, it will be found necessary to have some division of labour within the group if solidarity and group identification are to be fostered.)⁴⁶

(viii) Contract

In any evaluation of new ideas regarding work organisation, issues of control should be examined. Under awgs, management cedes an amount of control to work groups. Or so it appears. While management may have abdicated some of its immediate direction and control of the workforce, it can be argued that management gains greater predictability through the contract and output agreed with the work group. And as shown above, worker resistance may be contained and there is less vulnerability to strikes, etc. With multi-skilled working plus fewer disruptions through breakdowns or holdups as encountered under assembly line working, management is better able to plan and to meet fluctuations in demand. Though still vulnerable to stoppages, the contract as a formal agreement may make interruptions to production less likely.

Once a contract has been made with management - for a given level of output, for a minimum level of output, or for an agreed price per unit of production - the group is then left to ~~its~~ own devices. It is freed from management checking on its activities. It can enjoy autonomy and discretion in its organisation and performance of work, it enables the group to 'get on

with the job' without petty external interferences and it can give the group a feeling of independence. The accepting of a contract also involves an acceptance of the environment and of the constraints imposed on production as was noted above. Contracts, then, may reduce disputes over the terms of day-to-day operations. But at the same time, the granting of a degree of autonomy may result in demands for greater freedom and autonomy. Thus awgs could lead to stronger pressures for real autonomy and responsibility. The argument that awgs manage themselves for management - they control themselves, thereby freeing management for other activities - does appear to hold good. Although management is still required to maintain the boundary conditions necessary for the group to function, e.g. heat, light, supplies, specialists of various kinds, nevertheless the group does assume functions previously the prerogative of management. Management can exercise its control in a non-obvious way, i.e. through the group and the pressure of the group on its members. Although the direction of this pressure may not be to management's immediate benefit, e.g. restriction of output to a 'reasonable' level, rather than say, towards maximising earnings, management gains in other ways, e.g. predictability. However, the group does gain greater control, if by no stretch of the imagination absolute or even meaningful control, of its own activities. It does enjoy greater freedom and greater responsibility and may well result in reduced dissatisfaction at work and even positive sentiments. It may well enable men to feel greater pride in their work, to identify with the whole task or the product they now contribute more to making (in number of operations as well as in effort). The view that men actively participate in their own enslavement must be seen in conjunction with the view that work may be objectively 'better': greater solidarity, greater responsibility and autonomy, greater variety and skill in one's work. However much the greater control, etc. is

a mirage, the organisation of work may be more bearable under awgs than under the debilitating conditions and fragmented and routinised work of individual production on assembly lines.

(d) EVALUATION

The above are some of the elements of awg theory and their ramifications. There are benefits to workers and management, but it appears there are many more on management's side. The erosion of demarcation lines, increased predictability,⁴⁷ a more flexible workforce, less easily disrupted production, a method to deal effectively with absenteeism, the elimination of one level of management, a less antagonistic workforce, and many others. Despite the benefits which the workforce might enjoy: greater use of abilities, greater employability, greater freedom in work organisation, etc. there is no fundamental change in their working arrangements. That is, they are still employees, they do not participate in any decisions other than the organisation of work, they have not substantially altered the amount of control at the disposal of management, their 'autonomy' is within well-defined limits acceptable to management (Moore, 1977, p.2). Nevertheless, for the moment, the new working arrangements may be experienced as an improvement.⁴⁸ Whether they remain so is another matter. Habituation to changes occurs, the changes are taken for granted and eventually come to be viewed as inadequate. Similarly, changes may not meet the heightened expectations of the workforce, especially as regards younger workers (see Daniels, 1969A). By implementing changes based on autonomy management may be instigating radical changes only insofar as autonomy becomes a dimension of relevance to the workforce. Thus the idea is potentially radical. (See Emery & Thorsrud, 1976, here).

It is hard to distinguish between elements which are more, or less, radical. Obviously the elements interlink (hence the repetitiveness of some of the aspects of awgs looked at above) and some are more important than others. For instance, self-selection may not be that important as long as movement between groups is allowed. A 'whole task' may be irrelevant to today's workforce given a minimum level of technical complexity in production methods.⁴⁹ Perhaps the multi-skilled aspect has been over-emphasised - as long as the equivalence of effort, etc. is recognised, equivalence of contribution may be irrelevant. However, at a minimum it is necessary for the foreman's role to be changed in some way and also for the concept of autonomy to be introduced in order to allow for a number of areas of decision-making to be given to the workforce. It is difficult to see how responsible autonomy could be achieved without some changes in the foreman's role. But whether changes are radical or not will depend very much on specific applications and on how the specific ideas are interpreted and used, and, most importantly, what elements are neglected.

It is possible to maintain that the ideas are new (or at least were new when first publicised) and, in that respect a 'radical' departure from received ideas in industry and elsewhere. (Allowing of course for the fact that the degree of autonomy enjoyed in some occupations, e.g. steelworking, was not common knowledge.) But AWGs were radical insofar as they challenged the conventional Tayloristic assumptions with regard to obtaining higher productivity - specialisation, separation of thinking and doing, close control. To some extent, AWGs also differed from the assumptions of the Human Relations approaches in their emphasis on the organisation of work as a factor of importance for morale, satisfaction, etc. Nevertheless, the difference is not great here, there are many common elements to be detected in AWGs and Human Relations approaches, e.g. the concern with the need for

workgroups. Thus the giving of responsibility and autonomy to the workforce, markedly altering the foreman's role etc. can be seen as radical ideas. But not radical in the sense of abolishing the fundamental relationships between the managed and those who manage.

One important point to note is that it is quite different when management introduce awgs and gives responsible autonomy, etc. to its workforce as opposed to the situation where greater autonomy is demanded by the workforce. The different origins of the impetus to greater autonomy will in large degree affect the repercussions of the introduction of awgs. One which originates from management and which will be 'good for the workforce' (and, by implication, for management) is likely to be limited in scope and present no challenge to the existing order of things. Autonomy which is demanded and achieved after a long struggle has a much greater chance of radically affecting the organisation. Not only because of the commitment of the workforce to the changes but also because the changes were seen as necessary by the workforce, i.e. there was awareness and recognition of the lack of autonomy in work. In other words, the workforce was conscious of its deprivation.

It would be interesting to know if the managements who did pick up the awg theory and use it, themselves saw the ideas as radical in any sense of the word. This might indicate the extent to which the ideas are novel or whether they are merely variations on old themes. Similarly, the motives expressed by management for implementations of awgs may give a good idea of the gains to be reaped from awgs rather than hypothesizing on the possible benefits.

Are awgs merely another kind of productivity deal in which management is merely seeking an intensification of effort?⁵⁰ It is hard to say. To a large extent it will depend on each implementation and the terms on which the workforce agree to the changes. Certainly, in some cases, the workforce does seem to work harder (e.g. Rice in the Indian textile mills, (1958))⁵¹ but in others this is not so obvious. Much also depends on the type of workforce: sex, age, region, origin, and their reaction to the proposed changes as well as their bargaining strength in resisting attempts to increase intensity of work effort.

(e) PROBLEMS IN TRACING AN IDEA

Returning to the original concern of studying the diffusion of social science a number of problems are apparent. It may not be too difficult to discover which aspects of the theory have been picked up and what discarded and to analyse the implications of this selectivity. However, the possibility remains that it is the general notion which becomes popularised and diffused rather than the nuts and bolts. Thus, it may be hard to discover whether the less radical ideas are being selected/ignored or if there is unawareness of the variety and number of elements. Nevertheless I think this criticism can be countered: for popular ideas whilst being less explicit and detailed than 'informed' ideas do contain a core of concepts: some always used, some seldom, some neglected, some overstressed. But any general notion must to some degree reflect the specific idea. And even to the extent that distortion does occur, in itself this is interesting and worth investigating. It will be necessary however to chart carefully the growth and development of the diffusion of ideas in order to find out which elements have become more, or less, prominent over time so that some idea can be obtained as to whether there is a conscious selection of elements by managements when using the concept.⁵²

To the extent that ideas have been picked over and selectively reported then it is the producers of that report who present management with a possibly manipulative tool. And it is their interpretation of responsible autonomy, multi-skilled, etc. which becomes the blueprint for applications made by management. Thus, to assert 'management manipulation' when an idea is used as it is presented to management is to ignore the role of those informing management. It should also be borne in mind that the idea as originally presented is by no means necessarily manipulative in aim although it has the potential to be so. That theories relating to the work-force can always be used to manipulate is obvious. Presumed knowledge of any population can always be used for or against that population.

(f) FURTHER LINES OF ENQUIRY

Insofar as managers are presented with the tools to manipulate, it is perhaps less interesting to study whether or not management uses those tools than to investigate those who present the tools. Who are they, what is their institutional background, their aims, their connections. Are these the people who are the 'servants of power' presenting ideas which they think will be acceptable to those in power, acting as 'gatekeepers' to the findings of social science research: reporting on, and pointing out the possibilities of various pieces of research?

This is an aspect which will be looked at later. For the moment, it will be interesting to examine the impact of the idea of awgs, especially as regards publications and to see how the idea has been presented.

CHAPTER THREE

Publications Relating to Autonomous Work Groups

CHAPTER THREE

PUBLICATIONS RELATING TO AUTONOMOUS WORK GROUPS

Published material is a good indicator of a topic's popularity. By looking at the range of publications which have given attention to AWGs, some of the dynamics of the diffusion process should be revealed. Where, when and how is such an idea presented? Are some publications more influential than others? Who takes up new ideas initially? What happens to the idea itself in the process of diffusion? These are some of the questions which will be addressed in this section.

Although radio and television as well as publications are important in the transmission of ideas to a general audience, it proved impossible to discover which broadcasts had mentioned AWGs, or to discover the extent of coverage given. Thus, attention had to be focussed on publications. This restriction may not be as crucial as might at first appear - television and radio pick up and use information from the press, books, magazines and vice versa. The content of one is likely to reflect the content of the others.

This section on publications on the topic of AWGs will be divided into three parts: One, the timing, authors and publication type will be detailed in order to give a picture of the numbers and type of publications which have included reference to AWGs - in other words, to show the coverage given to the idea. Two, the content of a sample of publications will be examined and the results of this will show what aspects of AWGs have been picked up in publications and the type of reporting which the idea has received. Three, these aspects will be compared with the notions which personnel managers, and others, in the brewing industry had about AWGs.

Other work has focussed on changes in the organisation of work, some of which is concerned with AWGs and group working. Three articles have been particularly useful in helping decide specific aspects of work organisation publications on which to focus. Their findings will, therefore, be referred to throughout this section and will be compared with those made at a later stage here. Although their aims were not the same there is some overlap - particularly with Wilkinson's research which was concerned to discover and examine work experiments currently being conducted in Europe. Although his comments are general rather than specific, they are nevertheless interesting and echo many of those made here. The three articles are: Wilkinson (1970), Cummings et al. (1977), Wallenburg et al (1979).

PART ONE

THE COVERAGE GIVEN AWGS

(a) Methodology

In January 1979, letters were sent to five major business schools/ staff colleges regarding which journals were most popular and asking for a list of the management, business and social science journals and magazines taken. Various lists were received with advice and a recommendation to look at SCIMP - a list of the most popular business magazines taken by European Business Schools. The most frequently mentioned journals and magazines were abstracted and various indexes were then checked to see if they covered those journals. As a result, the first literature search covered a number of indexes:

British Humanities Index	1966 - December 1978
Public Affairs Information Service	1966 - 1977
Business Periodicals Index	1966/7 - January 1979
Anbar Index: Personnel section	1965/6 - 1978/9
Training section	1965/6 - 1978/9
Library & Information Science Abstracts	1969 - October 1978
Research Index	1970 - 12.4.79
Social Sciences Citation Index	1974, 1976, 1977
International Bibliography of the Social Science - Sociology	1975, 1976

In order to ensure that the literature search reflected what happened in practice, the libraries of the CBI, BIM, IPM and WRU* (for a list of abbreviations see Appendix A) were visited and their publications related to AWGs noted.

While the major national newspapers were also written to asking what coverage had been given to the topic - this turned out to be fruitless: two newspapers refused any assistance outright and in conversation with journalists on other newspapers it became evident that reporters would



only really be aware of their own articles on the topic. This was also the case regarding T.V. and radio programmes. There appeared to be no way in which I could obtain the information at first hand on their coverage of AWGs. References were collected from my own reading in the field, from individuals, institutions and associations which had been contacted - some at the suggestion of librarians in various organisations; from others in the department, bookshops, university libraries and the Department of Employment research list. Finally, a Bibliography on Work Organisation 1970-1977 prepared for the SSRC by Terence Brake (1978) was consulted.

Various publications were excluded: theses, foreign language articles (unless a translation was easily available, e.g. from the Work Research Unit); and most European and American publications were omitted unless they were specifically mentioned by one of the four organisations libraries or other British organisations - in other words, unless they were readily available to a British audience. Some exceptions were however, made. Publications such as the Harvard Business Review, Monthly Labor Review, Business Week and OECD publications were included on the basis that these were often available in libraries. Also books (in English) which originated outside the UK and could be found in the libraries of the BIM, CBI, IPM and WRU. To an extent, the choice was arbitrary, but a line had to be drawn somewhere - most of the US and European publications are not easily found in this country and it is unlikely that much foreign language reading is done by managers.

912 references were collected. One factor should be pointed out, however, in books of collected reading, reference has been made to each article, thus increasing the number of references; the reasoning being that articles have often been published separately to begin with, and secondly, the photocopies of specific articles are often used by teachers and sent out

by organisations, as well as being requested by individuals rather than sending heavy and expensive books. Two books which readily spring to mind here are the Davis and Churns' (1975) volumes on "The Quality of Working Life"; and Davis and Taylor's "The Design of Jobs" (1972). Not many books came into this category, and care was taken to ensure that no duplications of these articles occurred. Where there was a series of articles, as say L.K Taylor's in Industrial and Commercial Training, each article was counted separately as each appeared in different issues and had an equal chance of being read.

There was some difficulty in selecting references by title - some were obvious, others less so. There were problems with words such as participation, job design, group technology - all of which could and sometimes did contain reference to AWGs. Others seemed, by title, irrelevant yet on reading the abstract found to touch on the topic. Some dealt centrally, some marginally with AWGs. No claim is made that all these references are relevant, that a proportion are not is demonstrated by the sample which was analysed. But the numbers are probably a fair representation of the total. Since finishing collecting references in April 1979, a number of other references have come to my attention but these have not been included because it would 1) mean that the analysed sample was not representative, and 2) that they did not originate from my searches.

(b) The Publications - Distribution by year

<u>Year of publication</u>	<u>Number of articles</u>	<u>Proportion of the whole (%)</u>	
1979	8	1%	
1978	78	9%	
1977	140	15%	) Five year period
1976	100	11%	) had 64% of all
1975	120	13%	) the publications
1974	108	12%	)
1973	119	13%	)
1972	61	7%	
1971	49	5%	
1970	48	5%	
1969	30	3%	
1968	10	1%	
1967	5		)
1966	2		)
1965	3		)
1964	3		)
1963	1		)
1962	2		)
1961	-	3%	)
1960	1		)
1959	-		)
1958	1		)
1957	1		)
1956	-		)
1955	2		)
1954	-		)
1953	2		)
Unknown	18	2%	
	912	99%	

As can be seen the peak period was 1973-1977 - this five year period accounting for 64% of all the publications, while the period 1953-1967 accounted for 3% of the total. By 1978 interest in the topic seems to have waned slightly. It is impossible to say anything about 1979 as only two indices were covered for the first quarter of this year.

Looking at each type of publication separately, gives a clearer picture of the importance accorded to a particular topic. Newspapers accounted for 9% of the 912 references:

		Circulation
The Times	31	293,989
The Financial Times	23	180,793
Sunday Times	10	1,409,296
The Guardian	7	273,201
The Observer	6	688,458
Daily Telegraph	5	1,344,968
Sunday Telegraph	2	844,589
Scotsman	1	96,325 *
	85	(9% of all refs.)

(Circulation: Audit Bureau, British Rate & Data - figures for Jan/June 1978).

Quoted Labour Research, Jan. 1979, p.3 (*Benn's Directory, June 1980)

Relatively, both the Sunday Times and the Observer have devoted quite a lot of space to the topic, given, that they are published once a week, but both the Times and the Financial Times seem to play a substantial role in reporting ideas such as AWGs.

Books were published by a variety of organisations: employers organisations such as the Swedish organisation - SAF; professional organisations - such as the IPM; commercial publishing companies; industrial organisations - such as Philips; and educational establishments - such as the Administrative Staff College. Altogether 155 publications were classified as books - this figure includes what might be called booklets - accounting for 17% of the total.

SAF - Swedish Employers Confederation	10
Institute of Personnel Management	8
Administrative Staff College	7
Philips	6
Tavistock Institute of Human Relations	5
Wiley	5
Martinus Nijhoff	5
Business Books	4
Macmillan	4
British Institute of Management	4
McGraw Hill	4
O.E.C.D.	4

(The Work Research Unit publications are not included here as they have been treated as being more like journals, with regular reports being issued).

The above publishers account for just under half of all the books.

Circulation figures are notoriously difficult to obtain from publishers, so the impact of books must be guessed at. As an academic consultant pointed out, however, articles have a relatively short life in comparison with books which have a life of somewhere between five and ten years so that their impact needs to be considered in the longer term. While circulation figures are unlikely to be more than a few hundred copies, books obtained by libraries may be read by dozens of people. What is interesting here is the number of publications which have originated from abroad: SAF, Philips, Nijhoff; suggesting that the topic is of greater interest abroad than in the UK. The prominence of the IPM and Administrative Staff College as publishers is worth noting - the role of both organisations does appear to be large (see magazine publications and authors respectively).

Magazine and journal articles account for the great majority of the publications - 74%. This figure also includes the WRU reports, and mimeos from various sources (although the latter classification is dubious it seemed inappropriate to classify them with books). The impact of magazines

and journals is also variable. Not only through circulation figures and the number of issues per year which range from 12 to 3 but also, journals in particular, may end up in libraries where they are available to a wider audience. Also magazines and journals may be circulated within organisations.

Type of publications:

Newspapers	9%	85 references
Books	17%	155 references
Magazines/Journals	74%	773 references
	100%	913

The most prolific producers of articles on work groups in magazines and journals are as follows:

<u>Publication</u>	<u>Organisation associated with (if any)</u>	<u>Number of articles</u>	<u>Circulation</u>	<u>Frequency</u>
Management Today	B.I.M.	49	72000*	Monthly
Personnel Management	I.P.M.	38	26000	Monthly
Human Relations	Tavistock	36	2276	Monthly
International Management	Commercial	30	12734	Monthly
Work Research Unit	Government	26	2000	Irregular
Personnel Review	I.P.M.	20	1750	3 p.a.
Industrial & Commercial Training	Commercial	17	4000	Monthly
Harvard Business Review	Harvard (US)	17	(UK circ. unknown)	Bi-monthly
Industrial Participation	I.P.A.	16	2000	Monthly
Economist	Commercial	14	135039	Weekly
Monthly Labor Review	Commercial	14	Not avail.	Monthly
New Society	Commercial	12	31000	Weekly

(*Circulation figures from Ulrich's International Periodicals Directory 1979-80).

It is virtually impossible to estimate the impact of an article. Obviously the potential audience of say, the Times, is much greater than that of Personnel Management. Yet proportionately, 31 articles in the Times with its six issues per week is very small compared to Personnel Management's 38 articles in a monthly magazine. The Times reaches a general audience and Personnel Management a specialist audience who might be more interested or blasé about such topics. The shelf life of a newspaper is short whereas magazines can be consulted for a considerable time, even years. Publications which are free, such as those from the WRU and International Management may be less attended to than those for which subscriptions are paid.

Although the greatest number of articles appeared in the BIM's Management Today (49), the IPM's journals taken together: Personnel Management and Personnel Review 38 and 20 respectively outweigh the contribution of the BIM and as noted earlier the role of the IPM in conveying ideas such as AWGs seems important. Human Relations with its traditional link with the Tavistock has published many articles in the area (36) but its circulation of 2276 does not compare very favourable with those of Management Today (72000) and Personnel Management (26000) - although it is larger than Personnel Review (1750) and the impact of Human Relations is on the face of it unlikely to be great.⁵³ The length and depth of articles also differs - some may be merely review notices while others give a detailed analysis of the topic - again impact will vary.

(c) Authors

Authors are not always named but as far as can be ascertained, the most prolific seem to be:

<u>Authors</u>	<u>Number of Publications</u>	<u>Organisation and/or occupation</u>
Ray Wild	24	Administrative Staff College - Professor
David Birchall	18	Administrative Staff College
Louis E. Davis	16	U.S. Academic - Professor
Lynda King Taylor	10	Independent Consultant; Author
David Clutterbuck	10	Staff Writer - International Management
David Oates	8	Staff Writer - Internatioanl Management
James C. Taylor	9	U.S. Academic
Geoffrey C. White	7	Work Research Unit
Margaret Butteriss	7	In-house Consultant - Shell
Albert B. Cherns	7	U.K. Academic - Professor

There is double counting here for instance where articles were written by two or more people, e.g. Wild & Birchall; Davis and Cherns, etc. but the numbers perhaps do reflect the activities of individuals if not the amount of their cooperation. As noted earlier articles in books have been counted separately.. The predominance of authors from the Administrative Staff College when taken with the publishing activities of the College suggests that this organisation for whatever reason (whether in order to obtain access to organisations for research; to stimulate demand for courses; to foster public awareness of its activities; to be seen as an academic and publishing body) has an important role to play in conveying ideas.

(d) Development of the idea

Despite a close association having been made between the Tavistock Institute of Human Relations and the idea of AWGs, members of the Institute have not been the most prolific authors on the subject, e.g. Trist - 6 publications; F. Heller - 5; Herbst - 5; Emery - 3; Klein - 4; Rice - 4. Taken together, however, their contribution has been substantial. Interest in the topic of work groups was not confined to the Tavistock. In 1953, Bond-Williams wrote an article on 'Informal Workers Groups' and in 1958

Melman wrote a book 'Decision-Making & Productivity' which discussed groups of workers, or rather, a whole factory working as a group. It is worth noting that Melman referred to "autonomous small work groups" (1958, p.194) here, and it is possibly this phrase which was picked up and used by Herbst in 1962 in his book "Autonomous Group Functioning." In 1960, T.T. Paterson wrote "Glasgow Limited" - a book also concerned with work groups. Thus it can be seen that there were a number of people working in similar areas in the 50s and perhaps reinforcing one another's activities (if not directly) so that the topic remained one of interest.

At the same time interest in a number of other ideas relating to the organisation of work was increasing: job rotation, enlargement, enrichment, and design. Although these ideas were not dissimilar in many aspects to AWGs, e.g. there is some job rotation in AWGs, a fundamental difference is that AWGs alone focussed on the notion of the work group rather than individuals per se. Nevertheless, in focussing on the content of jobs, the presence of these ideas may have been a crucial factor contributing to the popularity of the AWGs idea. The presentation of these ideas may have helped set the scene for the emergence of AWGs at a popular level, so that AWGs were in some way seen as a development, as well as a departure from, these earlier theories.

While a few articles had appeared over the years after Trist and Bamforth's article in 1951, a new surge of interest occurred after Philips produced a pamphlet in 1968 on work structuring experiments they had been conducting.

While newspapers appeared to lead the field in first presenting the new ideas, various magazines reaching a managerial audience were not far behind. For example:

Management Today (BIM)	1968
Industrial Society (IS)	1968
Personnel Management (IPM)	1969

Academic journals on the other hand were slower to cover the topic - perhaps due to the greater waiting time for articles to be published.

A barrage of European publications (in English) presaged the real mushrooming of attention paid to AWGs - which spread even to governmental level. In the United Kingdom, the Work Research Unit, - set up partially as a result of interest stimulated by N.A.B. Wilson's 1973 booklet 'On the Quality of Working Life' published many articles from the mid-70s onwards.

While Tavistock Publications (not controlled by, but sympathetic to, the work of the Tavistock Institute) had published a number of books on AWGs, other publishers were slower to follow. Due as much to technical reasons as conservative habits, publishers continued, and late interest in such topics ensures the topic's survival even after magazines and newspapers no longer see it as 'news'.

By 1977, the topic of work groups or what increasingly became called 'improving the quality of working life', was at its peak. Publications as diverse as Church Information, Hi-fi- and Industry, Quarterly Journal of Building Societies had produced articles by this time. Indeed, few U.K. magazines, journals or publishers had not covered the subject. 1978 brought a downturn in popularity, being nearer the 1972 level but organisations such as the Institute of the Motor Industry and the Journal of the UK Boot & Shoe industry were publishing work on AWGs for the first time. Today not many articles are being published on AWGs. Concern is with more immediate issues of pay and productivity and it can be argued - as did some journalists and authors in the field - that the economic recession hastened the decline in popularity in AWGs. In line with Ramsay's (1976) notion of 'cycles of

control' it seems that the mid 70s, years of relative prosperity and a fairly high and constant level of employment fostered interest in AWGs. Management, in order to obtain greater output were constrained to find a way to motivate their employees, which in the absence of severe economic pressures on the workforce, had to focus on aspects of work other than pay. It is not surprising therefore that it was from the early and mid 70s that the interest in the quality of working life emerged.

Other factors also account for the popularity of AWGs. Not only was a great deal of attention given to the idea by the IPM and BIM's magazine, the number of publications from Europe must have played a part. The more outward looking perspective of the British media and audience in the late 60s and early 70s helped by the growing debate on EEC membership had its effect. Similarly, that the publications from Europe gave practical and accessible information as opposed to the theoretical and somewhat turgid presentations of some Tavistock writers may also have helped stimulate attention.

PART TWO

A SAMPLE OF THE PUBLICATIONS ANALYSED

(a) The Sample

A sample of the 912 collected references was taken in order to obtain some appreciation of the content and presentation of such publications. The references were arranged alphabetically and each 20th reference was selected, the publication was then obtained and the content analysed. Of the forty-six selected publications, six were found to be irrelevant, so that 40 publications were scrutinised.⁵⁴ (See Appendix 2). Of the forty publications, 23 originated in the UK, 9 from the US and 6 from Europe. This breakdown is very much a reflection of the search that was carried out and the stipulations which were made.

The 40 publications were made up as follows:

	<u>The Sample</u>		<u>All references</u>
Periodicals	27	68%	74%
Books and excerpts of books	6	15%)	
Pamphlets	1	2%)	17%
Papers (to conferences)	2	5%)	
Newspapers	4	10%	9%
		—	—
		100%	100%
		==	==

Thus, in the sample, periodicals are underrepresented whereas books and conferences papers are slightly overrepresented.

Comparing the years of publications between the sample and all the references, there is again a slight discrepancy with 1974 and 1976 being over- and 1973 and 1975 being under-represented. Thus in percentage terms a comparison of all references with the sample looks like this:

	<u>1965</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
<u>All refs.</u>	0.3	3	5	5	7	13	12	13	11	15	9
<u>Sample</u>	2	2	4	6	6	9	21	8	17	13	8

<u>Magazines</u>	<u>All refs.</u>	<u>Sample</u>	<u>All refs.</u>	<u>Sample</u>
Management Today	48	4	6%	8%
Personnel Management	38	2	5%	4%
Human Relations	36	2	5%	4%
Personnel Review	20	1	3%	2%
The Times	31	2	5%	6%
The Financial Times	23	1	3%	2%
Monthly Labor Review	13	2	2%	4%
Harvard Business Review	17	1	2%	2%
			<u>31%</u>	<u>32%</u>

Thirty-six of the publications described (between them) 80 cases or changes. The four remaining publications were not concerned with any specific changes but generally with extolling the benefits of improving the quality of working life, or worker participation and involvement. While these four publications cannot be analysed in the same way as those later described regarding specific projects, they are an important aspect in setting the scene for changes in work organisations and reinforcing the prevailing climate of opinions.

The Sample

Publications selected	46	Publications analysed	40
Found to be irrelevant	6	General publications on the	
	—	the quality of working	
Publications analysed	<u>40</u>	life etc.	4
		Publications relating to	
		AWGs	<u>36</u> <u>40</u>

Of the 36 publications reporting on 80 cases, the topics were broadly as follows:

Concerned with: groups or teams	77
group technology alone	3

Nine of the publications while citing work at various companies (11 cases in all) were less concerned to report those specific changes and more concerned to illustrate what was happening in the field.

Of the 80 cases, in 32 (over 40%) mention was made of autonomy in relation to groups or teams of workers, but only 18 of these specifically mentioned AWGs while other phrases were used:

AWGs	18
Semi-AWGs	6
Semi-AW team	1
Autonomous groups	5
Autonomous behaviour	1
Autonomous team	1
	—
	<u>32</u>

However, in another four, the phrase self-managed or independent work groups was mentioned, which could be considered roughly equivalent and implying a degree of autonomy. Thus at the most, 36 cases (45%) made some reference to autonomy or independence.

Altogether a variety of terms were used, some being mentioned only once: Cells, gangs, sections, units, modules, whereas the vast majority used the term group or team, 56 and 19 respectively. (In quite a few publications more than one term was used while the four publications concerned with job satisfaction and job changes and participation which are not therefore dealt with here made no mentions in this respect.)

The use of the word 'team' instead of 'group' gives a managerialist flavour to the concept. 'Team' suggests management directed collectivities - of the workforce pulling together as a 'team'. 'Group' on the other hand suggests a less formalized and organized arrangement in turn implying a distinct and potentially alternative type of grouping of individuals.

Only 17% of the European publications used the word 'team'. Whereas 33% of the UK and 44% of the US did. This is not so surprising given the often imputed managerialist flavour of much US writing on the subject, the prevalence of non-unionised workforces in companies which have implemented changes.⁵⁵ The infrequent use of the word 'team' in the European publications perhaps reflects a different environment in which the changes were implemented. The cooperation between workers and employers organisations was often noted, for instance, regarding Swedish changes, and the expressed intention of furthering industrial democracy.

There was no pattern to be found regarding the year of publication, and therefore no particular fashion or penchant for this word in the US, UK or Europe at a specific period.

A number of studies made reference to other ideas on work organisation, and to individuals and organisations working in the area.

<u>Ideas referred to:</u>	Job enlargement	9	In 28 cases, 1	such reference made
	Job rotation	16	6	2
	Job enrichment	16	5	3

Individuals and
organisations
mentioned:

Herzberg	11	4	4
L.E. Davis	7	1	5
Maslow	3	0	6
Thorsrud	6	1	7
Tavistock	11	1	8

There was nothing particularly outstanding about the distribution of the references which were made except that of the 28 cases which made only one reference, ten of these were to job rotation and six were to job enrichment, confirming the popularity which these ideas have enjoyed.

Some points should here be made: AWGs often involve job rotation - indeed, may merely be a grand name for job rotation. Job enrichment is sometimes used synonymously with AWGs, i.e. that jobs in AWGs have been 'enriched'. The correspondingly high number of mentions of Herzberg, one of the major writers on job enrichment, gives support to this, although job enrichment does not necessarily, by definition, imply greater autonomy, responsibility or discretion and refers to individual workers not groups. Nevertheless, it is difficult to maintain academic distinctions between types of changes - two of the reasons being "because they are often applied in some sort of combination and partly because each one covers a wide range of radical or minor modifications of jobs and work organisation." (Wallenburg et al, 1979, p.158).

While there have been quite a number of references to the work of Maslow and Herzberg associated with self-actualization and the need for better jobs, it is interesting that there is such a number of references to the work of members of the Tavistock - work which has arguably been more

'academic' in its aims than that of Herzberg. Associated with the Tavistock has been Thorsrud of the Work Research Institute in Norway and both of these institutes have been concerned much more specifically with AWGs suggesting a fairly high impact of their work. That L.E. Davis was mentioned seven times is also interesting as his early work was much more concerned with the content of individual jobs although in the last few years he has been involved in the work and ideas in Scandinavia, helping to bridge the gap between the US and European approaches to improving work. But altogether here there are no great surprises either in the number or distribution of references to others' work.

(b) The author and audience

Trying to classify the authors by the organisations to which they belong is of dubious value: not only because quite different approaches and perspectives can be adopted by an apparently homogeneous grouping and membership of the organisation by no means assures shared views, approaches etc., but also because no account is taken of the audience at which they are aiming. The authors affiliations were as follows:

<u>Author's Organisation:</u>	<u>No. of cases</u>	<u>Assumed Audience</u>
Company writer	7	Management
Employers organisation	4	Management
Employed as journalists	10	Management
Linker/self-employed journalists	11	Management/business organisations
Governmental bodies	5	Management, possibly workers
Trade Unionists	2	Workers
Academics/business schools	37	Academics/management
Unknown	4	-
	80 cases	

The outstanding finding is the number from academic backgrounds, (the Administrative Staff College was included in this category). This might reflect the prestige given to those in such circles who publish, i.e. the publish or perish syndrome. Nearly half of the publications originate from authors in academic or education institutions. Yet there can be no assumption that authors from such a background give a more rigorous presentation of experiments than others. A lack of information was found to exist in a whole range of publications by authors from various backgrounds.

14% of the authors came from within a company - normally at a senior level - or from an employers organisation. Both are likely to be aiming at the same audience, and to the extent that they share similar backgrounds likely to share similar perspectives on industrial organisation. Governmental bodies seem somewhat under-represented. However, organisations such as the WRU in the UK and similar bodies in Europe did not emerge, or the topic of work organisation of QWL was not taken up, until the mid 70s. Over a quarter of the reports come from commercial journalists and while they may be specialists, say, in industrial or labour matters, this does not mean that they will be able, or even wish, to present work organisation changes in great detail or even very accurately. That so few trade unionists - 2½% have written reports reflects firstly, the lack (until fairly recently) of trade union interest in this area and secondly, the difficulty they might experience in having their views published.

Overall then, looking at the audiences which are likely to be sought or reached, it is fairly clear that it is a predominantly managerial audience while only two small categories of authors might seek to reach workers: governmental bodies and trade unionists. There seems some support for the

view that those in business schools and universities seek an academic audience because 20% of the publications could be claimed to have a predominantly academic audience: 1 Harvard Business Review, 2 Monthly Labour Review, 1 Personnel Review, 1 British Journal of Psychology, 2 Human Relations, 1 Administrative Science Quarterly. If books are interpreted as aiming at an academic audience, then 33% of the publications could be included in this category. However, it could not be claimed that any of these publications only reach an academic audience. Indeed, in the brewing industry interviews, three of these journals were mentioned as being received.

(c) The Changes implemented

Given that the publications varied in their size, approach, and number of changes described, it is worth looking at them as a whole in order to discover what sort of understanding of such changes could be obtained by a reader.

Of the 80 cases or discussion of work groups, there is a dearth of information in a number of areas, while some aspects have been well reported.

80 cases of AWGs discussed

69 specific examples of changes

11 issues/approaches taken to work organisation - general discussions.

There were 69 examples of changes in working arrangements, while the remaining 11 publications discussed the issues or the approaches taken in changing work organisation. Therefore, the maximum number of mentions of specific features varies. A general article and a specific instance may both claim benefits from group working, or advocate worker involvement in the changes, but the general article is unlikely to name a company or product.

Again, it should be stressed that when looking at the mention in one publication of a particular aspect, no account is taken of the emphasis laid on it, or of the length of the report, or of the circulation which the publication enjoyed etc. The aim is merely to give an indication of the presentation of an idea - what features are stressed, what neglected so that an impression can be gained of the content of that idea.

It is interesting to compare the references made to previous work and the work which was being reported in the publications.

The comparison looks like this:

	<u>Scandinavia</u>	<u>U.K.</u>	<u>U.S.A.</u>	<u>Japan</u>	<u>Other European</u>
Cases referred to: (99%) N = 30	53%	23%	10%	-	13%
Cases being reported (5 unknown = 6%) (100%) N = 69	45%	15%	19%	9%	6%

It should be noted that the substantial reporting of Japanese cases is due to the presence of one publication alone and is therefore, misleadingly high. The corresponding decline in the reporting of UK and European and the rise in the number of US cases is perhaps illustrative of a continuing interest in work organisation changes in the US whereas interest maybe on the wane in the UK. It might also of course in part reflect the shift in interest to worker participation in the UK as a result of the Bullock Committee report. Perhaps it reflects the failure to build on earlier work in the UK or that active publicity is needed in order to maintain interest and impetus to such changes.

56

That so many company names are supplied - 64 out of a possible 69, is surprising given the secrecy with which many firms undertake work changes. It does give some weight to the suggestion that it is the successful

experiments or innovations which are reported, failures do little to enhance company prestige. While the reasons for reporting changes may vary it should not be overlooked, that the changes can bring benefits such as publicity and a favourable public image as Blackler and Brown (1978) point out with regard to Volvo: "In Sweden Volvo is no longer the huge, inhuman organisation that condemns its employees to routine monotonous assembly work. In the UK Volvo is seen as a pace setter in the drive to humanise work, its products are far more widely known and respected..." (p.65). Thus some prestige may be gained through implementing and advertising such changes.

(i) The Results

The results of the changes which are reported reflect a somewhat missionary stance in that in 56 cases, specific benefits were claimed (Labour turnover improved 22; absenteeism down 18; productivity/performance improved 42; reduced costs/increased profits 9; increased flexibility 7, - 98 in all, there being more than one benefit claimed per report). General benefits were claimed in a further 11 cases, 19 of the cases claiming benefits also mentioned problems, e.g. of resistance by foremen; in only 7 cases were negative effects, e.g. profits fell, and no benefits, reported. Overall then, the impression given is that the changes are beneficial. Even though problems were encountered in a number of cases these are often followed by figures giving results which showed improvements in production or decreases in Labour Turnover or Absenteeism.

The results:

General benefits claimed		11 cases
Specific benefits claimed:		
Improved labour turnover	22	
Reduced absenteeism	18	
Productivity/performance improved	42	
Reduced costs/increased profits	9	
Increased flexibility	7	
	98 benefits	56 cases*
No benefits claimed, only problems		7 cases
		74
Aspect not mentioned		6
		80 cases

* (19 of these mentioned both problems and benefits)

Perhaps it is the successful changes which are reported but the impression is given of a selective presentation of events by the company. Blackler & Brown (1978) note regarding Volvo "despite the very considerable degree of publicity given to the company's activities in encouraging job redesign experiments, external evaluation of it has not been permitted." (p.110). That this may be the case regarding other companies should also be borne in mind.

Similarly other commentators, this time in the Netherlands, make implicit reference to this: "the changes actually taking place bear no relation to what is being said and written on the subject. In our research, we have had the greatest difficulty finding industries which have introduced changes of any consequence in the organisation of work." (Wallenburg, et al., 1979, p.144).

(ii) Environmental changes

One factor which might cast some doubt on the claimed benefits of these changes is whether or not other aspects of the work environment have been altered. Wilkinson, in his survey of some West European experiments, found that "In every case, something else was happening, some other change (e.g. a technical change to equipment, a special market condition, an O & M exercise) which also contributed to the 'successful' results." (1970, p.73). Cummings et al also note this aspect (see, also p.140 below). But in the publications looked at here, in only 25 cases were such corresponding environmental changes noted, such as redecoration of the work area, new factory, altered technology, redesigned work area, etc. Wilkinson's findings while not reflected so strongly in the publications, do raise the suspicion that perhaps other changes were occurring but went unremarked by many writers.

(iii) Problems encountered

Surprisingly few cases reported disadvantages which had been encountered. In 26 cases reference was made to problems or obstacles (42 comments) which had been encountered, or additional costs incurred. This latter problem was most often mentioned, on 8 occasions, regarding extra machinery; more tools required by workers, more training or greater space requirements. Problems relating to the attitudes of senior management were mentioned in 5 projects, while the reservations and resistances of supervisors and lower management grades was mentioned in 5 reports. Overall, it was 'people' problems rather than 'cost' or 'technical' problems which were most often noted: 26; 8; and 2; respectively, while in only one case was it stated that the anticipated benefits were not realised. (The other 5 cases gave various warnings of a more general kind.)

Problems encountered:

26 cases mentioned problems - 42 comments were made:

<u>Focus of problem:</u>	people	26
	cost	8
	technical	2
	general	5
	unrealised benefits	1
		—
		42
		==

Mention was most frequently made as follows:	additional costs	8
	senior management attitudes	5
	lower management attitudes	5

Given that the problems are skated over or ignored in over 67% of the cases, this might lead to two opposite results: to enthusiasm for such a successful and easily implemented idea; or, to scepticism when what might be seen as the realities of industrial life are ignored. It is the latter suggestion which receives greatest weight from the interviews with brewery managers given their often repeated charge: "its alright in theory but not in practice". Yet in less than half of the publications (16) was any reference to trade unions made.⁵⁷ The existence of trade unions was normally mentioned in the European work, but in only two of the 8 US publications and in 8 of the 23 UK publications, a more than slightly unreal situation especially with regard to the UK. For most practising managers, trade unions are a part of everyday life - indeed, within the personnel function may be one of their major preoccupations, and the failure of over half the publications to mention this factor could lead to scepticism of the report. In similar vein, Wilkinson notes "it is very difficult in the UK to give a man a 'whole job', including preparatory and auxiliary work, if currently the auxiliary work 'belongs' to another union which (for political or historical reasons, or for reasons of insecurity) refuses to allow anyone outside this union to do such work." (1970, p.9).

(iv) Motives for introducing changes

When the motives given for introducing the changes are examined, a large number claim that the changes were aimed at providing benefits for both management and workers (35 out of 80 made such claims). However, benefits to the workforce, say in terms of greater satisfaction or motivation, may have very much more tangible benefits to management if they result in increase productivity or reduced labour turnover, e.g. Edgren "most cases show positive results both in regard to job satisfaction and productivity." (1974, p.25). And some of the claims as regards benefits to workers in these cases should be treated with a little scepticism. 17 cases quite clearly stated that the objectives were to benefit management e.g. "one of our aims was to improve quality. The only way to do this was to get people to want quality." (Manufacturing Management p.18 emphasis in original). On the other hand, 6 cases referred to the benefits sought for the workforce, e.g. "The basic thought used by Volvo is that the individual has the right to exert an influence on his own working situation." (EFTA, p.17). But in the other 22 cases no mention was made of the motives behind the change.

Why changes introduced

Benefits management and workers	35 projects
" management	17
" workers	6
Not mentioned	22
	—
	80
	==

(v) Subjective Evaluations

Similarly, although it is to affect the perceptions of the employee to the work, and by extension to the organisation, that work groups are used, only in 23 cases was mention made of monitoring the subjective evaluations, although a number of other cases (11) referred to increased job satisfaction (with no mention of how this was discovered, suggesting that it may merely be taken to exist as a result of say, reduced labour turnover). Criticisms of this aspect have been made elsewhere: Wallenburg et al note: "workers' reactions to and verdict on Job Structuring, of which very little is known. Any mention of them in publications is usually confined to some finding on increased or decreased job satisfaction." (p.166). Thus the role of the employee in the design, planning and monitoring of changes in these publications is not over-stressed. Given the number of instances in which benefits for the workforce were mentioned, it is surprising to find that the participation of the workforce (or worker initiation) is so infrequently mentioned. As far as can be gathered, in 10 cases there was some initial participation by the workforce, while in a further 7 cases participation took place after the changes had been implemented, e.g. participating in planning and production decisions. In 9, the workforce were said to have been consulted. One problem here is semantic, e.g. 'consulted the workforce'; 'consultative committee'; 'company conferences'. Not all of these are equivalent and often there is no clue elsewhere in the study as to what happened. Involving the workers may mean merely telling employees what changes are to take place- this is a facet commented on by Wilkinson: "Many, of course, believed they were involving when in fact they were consulting." (1970, p.59). There is quite a difference in approach between asking the workforce to help redesign the work and in imposing changes designed by management. Thus in 28 cases participation or consultation were mentioned as having taken place, while in another 5, the participation of the workforce was advocated.

Workers participation or consultation regarding the changes:

Initial participation	10
Participation after changes implemented	7
Workers consulted	9
Initiated by workers	2
	—
	28 cases
	==

But overall, the impression is that autonomy or responsibility are 'given' to the workforce and even, perhaps, imposed. In only two cases was it noted that the changes were worker initiated.⁵⁸ While this may reflect the reporting of changes, it more plausibly reflects the failure of trade unions or workers to make demands for changes in areas other than those of a more financial, bread-and-butter nature. (This is, of course, not to suggest that workers ought to be making such demands).

(vi) The Changes Themselves

In the light of the earlier analysis of the implications of the various concepts contained in AWG theory, some attempt was needed to find out what changes had in fact been implemented. Again this was not always clear, indeed in many instances, it was impossible to make any evaluations at all. However, it seemed relevant to try to find out the extent to which these attempts to introduce work groups or teams had increased factors such as autonomy, responsibility, skill etc. which are central to autonomous work group theory. A number of elements were examined, many of which overlap with one another.

Foreman/supervisor (see table, p.130)

An important element of AWG theory is the role of the foreman or supervisor. Yet in only 3 cases was the role of the foreman eliminated, while in a further 18 some change in the supervisory role was mentioned,

e.g. freed for other tasks (Clerc); acting more as an adviser (World of Work). While there is a broad correspondence here with the number of cases (18) which mentioned freedom from task direction, the increase in autonomy and responsibility (32 and 49 respectively) must be considered a dubious claim in a substantial number of the cases. Indeed, greater responsibility and autonomy may mean merely an increase in the number of functions undertaken.

Responsibility

In 49 cases, some increased responsibility was given to the participants. This covered a variety of situations from responsibility for maintenance to "maximum responsibility" where decision-making is pushed down "as far as possible" (Jenkins). This contrasts with the 21 cases which mentioned some change in the supervisory role, and the suspicion is aroused that the reorganisation of work is pretty limited and the use of the word 'responsibility' often misleading. That the greater responsibility of employees is simply related to the extra functions which they carry out is suggested by the correspondence between the number of times each aspect is mentioned (49 and 42 respectively).

Autonomy

There appeared to be some increase in autonomy in 32 of the cases, but again as with responsibility, the nature of the autonomy must be questionable given that only 21 mentioned a change in supervision. Certainly 'autonomy' covers a range of practices from "freedom from restrictive procedures and close supervision" (Herrick, p.53) to autonomy in how to meet a production target set by the company (Hamilton, p.30).

Freedom from task direction

The context of autonomy is more clearly seen by whether or not the work group enjoys freedom from task direction. In only 18 cases did there appear to be greater freedom from task direction e.g. relative absence of supervisors, freedom to decide how to complete a task without reference to anyone outside the group. But it is worth noting that although there were a number of changes (21 in all) in the functions of foremen, supervisors, chargehands etc. in only three cases was one of these grades eliminated.

Contract

In only one study - Qvale's - was mention made of a contract between management and workers. The contract, it will be remembered in the coal-mining study was an important mechanism whereby autonomy and responsibility were assured. Qvale in his article refers to "a contractlike relationship to management." (1976, p.465). In none of the three publications which referred to the early coal-mining studies in the UK was mention made of any contract between management and miners, only a national wage contract being mentioned by Trist et al regarding the US miners.

Dimensions of changes in work organisation mentioned:

			Number of mentions	Number of other dimensions mentioned:			
				None	One	Two	Three
Foreman/supervisory							
Role changed	..	..	18				
Eliminated	..	..	3				
			21	3	3	7	8
Freedom from task							
direction	..	..	18	0	2	7	9
Responsibility							
increased	..	..	49	14	14	11	10
Autonomy increased	..	..	32	3	12	15	2
Contract	..	..	1	0	0	0	1
			121	20	31	40	30

It can be seen from the above that while a few of the elements of the AWG concept have been given mention in a fair number of publications, doubts as to the reality experienced arise. The relative lack of comment on the role of supervision and the near total lack of mention of a contract means that any responsibility or autonomy enjoyed as a result of the changes by the workforce is minimal. Of course, how changes are experienced depends on previous conditions at work; expectations and orientations to work⁵⁹ and it may well be the case that work is experienced as better or, at least, less dissatisfying. Nevertheless, the reporting of these elements of the changes in work organisation leaves much to be desired in the way of information and in its absence, the changes must be seen as only partially owing a debt to AWG theory. Indeed it could be argued that the content of many of the changes owes more to Human Relations theories and the social needs of the workforce for group membership than to socio-technical analysis and AWGs.

Extra functions (see Table, p.135)

In 42 of the cases, extra functions were carried out. In 27 these appeared to include administrative decisions⁶⁰ that is, hiring and firing, discipline or work allocation and planning. In 3 cases the extra functions included material flow decisions, that is, ordering materials from store etc. In four cases, maintenance, quality control and even cleaning duties were mentioned. And in the other 8 cases, the extra functions were unspecified e.g. "many other tasks".

Although the extra functions may be seen as increasing the amount of responsibility, their inclusion does not necessarily amount to a 'whole task'. That the extra functions may not be very demanding is evidenced from the fewer comments on the need for training. In only 26 cases was the need for

greater training mentioned, yet increased skill is implied in 39 cases. This suggests in turn that skill is equated with number of tasks - a debateable point. For example, keeping the work area clean is unlikely to mean an increase in skill! but it is an extra function. Any increase in skill varies from case to case, in some instances, merely carrying out jobs not dissimilar to the one(s) previously undertaken. In other cases, the introduction of stock control or planning functions may mean a real increase in skill. While training might have been of the variety of 'sitting next to Nellie', the failure to mention training at all in 13 cases suggests no great increase in skill or knowledge was required. Worth noting here is Wilkinson's comment (1970, p.45): "if the work has been rearranged and reallocated to form a truly autonomous group, included in the task of that group will be maintenance, repair work, clerical work, planning, stock control, etc. For workers to be fairly interchangeable in this kind of situation requires a much higher degree of skill and knowledge than would be the case on the traditional kind of job."

Multi-skilled

Although an increase in 'skill' appeared to have occurred in 39 of the cases, it often proved impossible to make any judgement on whether or not the participants were multi-skilled. Certainly in 12 cases it appears the workers were interchangeable while in a further 8 there was an aim to make the workers more interchangeable. In 12 cases it was implied that group members had equivalent, or potentially equivalent, skills and role (hence the correspondence here with the figures for interchangeability). But in the other 15 cases in which skill differences within groups was mentioned (27 in all), it appeared there were some differences within the group. For instance, through the inclusion of a repair man within the group, or the existence of a team leader. It would be easy to exaggerate the need for

equivalence of skills within a group in order for it to be autonomous - specialist help will be required at some stage by any group of people especially if production processes etc. become more sophisticated. It may be preferable for equivalence of effort rather than equivalence of contribution/skill to be recognised for the group with 'responsible autonomy' to achieve a cooperative system of working as in the coal-mining studies.

Whole task

23 of the cases mentioned that the participants after the change undertook a 'whole task', e.g. "each assembly worker puts together and tests the entire product." (Business Week, p.32). While in another 10 cases some attempt had been made to get nearer to a whole task, e.g. "each worker was given the opportunity to learn all tasks in his sub-group via job rotation and mutual aid." (Glaser). While a group may have a 'whole task' to perform, this does not mean that all group members carry out that whole task. The group may very well operate its own division of labour - indeed that will be up to the group enjoying 'responsible autonomy'.

Changes in payment system

33 cases mentioned changes in the payment system. 11 of these payment systems were based on a fixed pay without any incentives or individual piece rates being mentioned (salaried 7; contract 1; fixed rate alone 3). 18 of the payment systems had a variable element, so that although in these cases the fixed component was the major part, the final amount of pay depended on some incentive or bonus. The incentive or bonus was paid on different criteria:

Group incentive or bonus	10
Number of jobs can carry out	6
Individual piece rates	2

4 of the 33 cases which mentioned changes in payment systems were unclear as to the changes.

The correspondence between the cases mentioning the 'whole task' element and changes in the payment system suggests firstly, that extra functions are rewarded and secondly, some change in the incentives offered via pay have taken place (and implicitly in the view taken of worker motivation). One third of all cases do not rely on incentives, treating the employees more like white-collar workers.. Of the 18 which do not rely on incentives, 10 base the incentives around group performances while 8 rely on individual performance.

It is impossible to say whether the changes in payment systems reflect the growing interest in the "harmonisation" of blue and white collar workers pay of the late 60s and early 70s, or reflect a view of the worker as more responsible and in less need of carrot and stick methods of motivation.

Similarly, the group schemes of payment do appear to reflect a change in philosophy regarding the worker although whether this is based on well-known Human Relations theory criteria or AWGs (the two are not dissimilar) is debateable.

While pay which is dependent on individual motivation is antithetical to the notion of AWGs, it may be that payment for the number of jobs a worker can carry out is a necessary intermediary step to AWG organisation by increasing the skills of the workforce. However, the reliance on the notion

of the individual as the primary unit in production is the one which may be difficult to overcome at a later stage. Although the adoption of fixed payment schemes may not be an encouragement to group integration as such, at least it will not act as a barrier to group integration.

Whatever the reason for management not adopting group methods of payment, the failure to do so much cast doubt on the acceptance of AWG theory in practice, the common paynote being an important element in fostering cooperation and group cohesion.

Dimensions of changes in work organisation mentioned II:

Extra functions	42		Whole task	23	
Administrative decisions	27		Nearer a whole task	<u>10</u>	<u>33</u> (41%)
Material flow decisions	3		Changes in payment system		33
Maintenance, etc.	4		Fixed pay	11	
Unspecific extra duties	<u>8</u>	<u>42</u> 52%	Variable pay	18	
Greater training required	<u>26</u>	32.5%	Unclear	<u>4</u>	<u>33</u> (41%)
Greater skill	<u>39</u>	49%	Variable:		18
Workers interchangeable	12		Group incentive	10	18
" more "	<u>8</u>	<u>20</u> 25%	No. of jobs	6	
No skill differences in group	12		Indiv. piece rates	<u>2</u>	<u>18</u> (22.5%)
Skill differences in group	<u>15</u>	<u>27</u> 34%			

Although it is from interchangeability that management are likely to reap a number of benefits (see the earlier section on AWGs), it is surprising that relatively little mention is made of this factor, while greater skill is implied in nearly twice as many projects. It may be that to achieve interchangeability is too expensive - in training time, or hard to achieve due to demarcation lines. The impression is gained from the comments noted under 'whole task' that the focus of attention remains the individual rather than the group. This in turn implies that it is not 'responsible autonomy' of the group that is aimed at so much as the increased responsibilities of individuals. Some support for this idea comes from the infrequent

mention of group systems of payment - fixed (contract) or variable (bonus etc.) suggesting that it is the individual on whom attention is focussed.

(d) Slant of the publication and attitudes to further research

One aspect which is of great importance in the reporting of changes in work organisation is the direction in which any selectivity is made. In other words, given limited and selected information, what is the 'slant' of the publication? Is it critical or approving of AWGs?

It should not be overlooked that what is presented in publications is very much a mediated product. Firstly, in that the information may be given by the company which has tried some changes. Blackler and Brown, 1978, for instance comment regarding Volvo: "Almost all the material which has appeared in the international media has come from one of two sources: either directly from the public relations function, or as a result of short sightseeing visits which Volvo have set up for journalists, social scientists, engineers and other interested groups." (p.65). It can be expected, therefore, that there is an element of selective reporting here, the aspects favourable to the company being emphasised, the failures minimised.

Secondly, the reporter of the work is likely to impose his view on the material presented, so if thought to be a good idea, the positive results will be stressed and vice versa.

Thirdly, it is much easier to obtain access to some organisations than to others. Those organisations seeking publicity are therefore, likely to have a greater number of visitors and in turn, reports. Related to the above point, failures are unlikely to be advertised so it should occasion no surprise that it is the successes or the claimed successes which predominate in the literature.

While it is not irrelevant what actually occurred or was attempted within companies, it is the public facts which are important. It is the article or book which leads to other articles and books. It is the available information that matters, on which the idea is judged and interest stimulated. Thus the 'slant' of the publication will be most important.

While any evaluation regarding why an article or publication has been written must necessarily be subjective it is interesting to look at the reporting of the projects. Seven were either written by an employee of the company which had tried the changes or extensively quoted a member of the company. While these were not always free from criticisms they still appeared to be committed to the ideas behind the changes. Seven were critical of the idea or of some changes. 27 were classified as taking no side - balancing both the pros and cons, aimed at an academic audience, presenting benefits and problems, criticising the practice not the idea, etc. 39 of the studies were 'missionary' to some extent where the idea and the practice was favoured and there was a corresponding tendency to overlook tendentious issues and skate round difficulties. (And in two cases, the rather enthusiastic reporting referred to changes which had not yet taken place! - Jenkins and EFTA). Thus it seems that cases in favour of the changes numbered 46, while 7 were critical and a good proportion - 27 - were 'balanced'. A surprising finding given the lack of detail and the assumption that this necessarily meant an attempt to sell the idea. Similarly, the popular stereotype of many such publications is one of uncritical reporting which in turn fosters management fashions, but it is not altogether borne out, given the number of reports which aimed to give a fair representation of an idea or of changes. It may be that wariness has resulted from the earlier bombarding of managers with panaceas for their ills so that a more critical approach is now being taken. However, it is worth noting that in only 4 of the cases was any reference made to the conflict of

interest between workers and management - by Winpisinger, Banks, Clerc, Olsen. And while the other commentators did not all present a unitary view of the industrial enterprise, the potential benefits of recognising common interests were often presented.

Slant of the reports on cases:

Company employee reporting or much quoted	7
Critical of the idea	7
Take no sides	27
Missionary	<u>39</u>
	80
Balanced	27
Favourable to idea broadly	46
Unfavourable to idea "	<u>7</u>
	80

A further clue to the slant of publications can be obtained by the attitudes to further research which were expressed. If a company wishes to pursue further research, then the positive nature of the changes will be implicit. And if a company has no future plans then the negative nature of the changes to date will be apparent.

In attempting to evaluate attitudes to further research and changes, it appeared that in only two cases were there negative answers while in 21 positive attitudes were expressed. These, it should be noted, were not necessarily by commentators who were uncritical of the changes which had already taken place.

Overall, the outstanding feature of the publications here analysed is the lack of information. Quite a number of factors were fairly often mentioned: the type of work (although this was often vague - e.g. 'operators') - (52 mentions); whether the work was blue or white collar - 59 mentions, 56/3 respectively, the product of the company 69 mentions - not always

explicitly stated but likely to be known by readers, e.g. Volvo, BOC; the name of the company - 65 mentions; the country (64 mentions) - 3 at Philips were not stated and could have been in UK, Holland or elsewhere). However, in other respects, much information was lacking. Thus the role or reaction of trade unions (16 out of 40 publications), the need for greater training (26 mentions in the 80 reports), the change in supervision (21 mentions), the environmental changes (25 mentions), the redeployment or redundancy of workers (6 mentions) - are at best, infrequently mentioned. The lack of information in these and other respects (see table below) means that many practical and perhaps crucial elements are missing from the majority of reports. That the idea is not often implemented then should cause little surprise. For the absence of such information does give rise to some rather airy-fairy, enthusiastically unclear reports of an idea whose basic components are often neglected.

<u>Lack of information</u>	<u>Mentioned</u>	<u>Not mentioned</u>
Role/reaction of trade unions	<u>16 publications</u>	<u>24 publications</u>
Need for greater training	26 projects	54 projects
Change in supervision	21 "	59 "
Environmental changes	25 "	55 "
Redeployment/redundancy of workers	6 "	74 "
Problems/obstacles encountered	26 "	54 "
Composition of group Homogeneous/ different	26 "	54 "

Of course, some reports are more informative than others; some are more, some less, critical. But there is a greater chance of picking up a report which cites the benefits than points out the problems (67 to 33); which refers to the greater amount of responsibility (49) and number of functions (42) than the subject of trade unions (16 out of 40 publications) or supervisors (21). Nevertheless, there is a fairly high incidence of

reports which make some critical comments and which present both the advantages and problems (27 in all) yet it should be noted that these are also often deficient in detail. It might be, that judgements formed, on the basis of such reports, whether negative or positive, are more than likely to be based on insufficient information. It seems plausible however, that evaluations favourable to the notion of work groups are more likely, given that even the critical reports also detail benefits (and these critical reports include those who while noting the limitations of the idea, like it nonetheless). And it is possible that such reports gain attention due to the problems which they purport to solve. Articles which point out problems and benefits may in fact have greater impact through presenting a more realistic and believable picture, while a 'missionary' presentation may result in scepticism or disbelief.

Before going on to look at the knowledge of AWGs expressed in the brewing interviews, it is worth noting the findings of other studies regarding changes in work organisation.

(c) Other Studies

Deficiency in detail is an aspect of reports in changes in work organisation which has often been found elsewhere (see Srivastara, 1974, - cited by Blackler & Brown, 1978, p.38; Cummings et al., 1977), and perhaps is to be found in many areas of reportage, e.g. science reporting (Krieghbaum, 1968). It is interesting to compare the findings here with those of Cummings et al., 1977. Although their concern was to evaluate the internal and external validity of 58 (mixed) work experiments which were field rather than case studies, their comments in some instances echo those made above. They point out that two factors made it difficult to isolate the effects of

particular organisational changes. Firstly, "the predominance of positive results reported in the studies." (Cummings et al., 1977, p.681), a factor noted in looking at the work group reports. Secondly, that in 51 of the 58 studies "the organisational changes involved more than one independent variable" and "it is impossible to disentangle the effects of a single dependent variable from the overall effects of a set of variables." (Cummings et al., 1977, p.681). To a much lesser extent were other environmental changes mentioned in the work group studies - 25 reports - under one third. But it is an aspect which not only confuses the issue, but also misleads the reader. Cummings et al., also note the failure to report unsuccessful experiments - a finding which gains some support here although a number of commentators have noted the failure of certain projects. (No benefits were noted in 7 cases). Similarly, Cummings et al., note the "absence of reported data" (1977, p.687), a point which also receives support from the analysis of work group reports.

In Cummings et al's paper they state "the validity of the work experiments leaves much to be desired" (1977, p.702). They note the threats to the internal validity (i.e. were the observed effects produced by the organisational changes?) of the performance findings and attitudinal results this aspect was questioned also by Wilkinson, 1970.⁶¹ Similarly, the external validity (i.e. can be generalized) of the attitudinal findings is also questionable. While Cummings et al refer to "the rather stringent criteria of internal and external validity" (1977, p.702) which they used, caution should be used when considering the claims made in the work group reports. It would be impossible in many of these reports, given the paucity of information to judge whether or not the claimed benefits were in fact enjoyed and resulted from changes in the work, rather than say, the environment. Nevertheless the sceptical reader of such reports might ask which

cause had which effect? Indeed, anything longer than a quick glance might well result in such a question. Thus, opinions about an idea may well depend on managers' reading habits. These, as will be seen later, are not impressive. It seems likely therefore, in the brewing industry at least, that little more than a short glance is given to such topics, suggesting that managers knowledge and information would reflect the face-value of the reports. Before looking at this, Wilkinson's, 1970, "Survey of Some Western European Experiments in Motivation" should be mentioned.

Unlike Cummings et al., Wilkinson directly contacted the companies which had done 'relevant work' yet he found "very few companies in Europe have carried out work of this kind on a significant scale or have been involved for more than 12-18 months, the fact is that the three large companies in the world who, for the past four or five years, have been receiving wide publicity for their experiments on job enrichment and work structuring are virtually the only companies where large numbers of employees have been involved in this kind of work over a fairly long period." (1970, p.2), (emphasis in original). This raises three points on the work group reports:

1. Although Wilkinson's statement was made in 1970, it does appear, as far as work groups are concerned, that the duration of the changes had been played down. It is mentioned in only 12 reports: two as ongoing/continuing; seven under 18 months duration; two for over two years, and one over 20 years.
2. Similarly, very few cases were mentioned where 'large numbers of employees have been involved'. Fifteen of the 35 projects were of changes where less than 40 people were affected; 7 reports where between 41 and 80 employees had been affected; six where 81-150 employees were affected and 7 reports related to changes where over 150 had been affected by the changes (Olivetti, Philips, Donnelly Mirrors, GLC Housing Authority, Esu-Esu Seijaku, Mackawa Manufacturing, Volvo).

<u>Number of Employees</u>	<u>Number of cases</u>
Less than 40	15
41 - 80	7
81 -150	6
Over 150	7

Of course, what one takes to be a large number of employees is open to interpretation but a good proportion of these changes in work organisation do not appear to have affected a substantial percentage of the employees, e.g. 90 out of 850; 125 employees in the 21st largest US company; 75 out of 8000; 24 out of 3400. However, in five cases (Emcar; Butter manufacturing company, Iowa; Philips Factory; Volvo truck division, Donnelly Mirrors) all the employees - at least at shop floor level - appear to have been affected in that company or division. Thus the applicability of the idea in companies where there is a large workforce may not always be apparent, although it should be pointed out that in only half of the reports was this factor mentioned.

3. The prominence of a few companies which Wilkinson noted is also to be found with work groups.

Volvo and Saab, General Foods, Norsk Hydro and Philips are the five companies which are most frequently reported and/or referred to: 14; 8; 4; 4; 4 and which are currently undertaking work in this area. (However, regarding AWGs it should be remembered that of 48 companies mentioned - in detail or in passing - only six were often mentioned. But work in 42 other companies was at least known about.) Interestingly, five mentions were made of the UK coal-mining changes. Thus out of the 48 companies which have been named in all the reports, these six are most mentioned, with only Volvo and Saab receiving substantially more mentions than the others. That the coal-mining work is so frequently mentioned suggests not

only that it is seen as an important innovation in the field but also that there has been no other major attempt in the UK (worth writing about or which is known about) since the 1950s. Indeed, this is suggested also by Wilkinson's comment regarding the multi-unionism found in the UK "This kind of problem was, in fact, one reason why some British researchers into motivation in industry came to Norway to conduct their experiments, having suffered frustration in the face of British union attitudes." (1970, p.9). However, Wilkinson does note that a number of 'limited experiments' (1970, p.2) have taken place in the UK.

Similarly, echoing a comment made earlier about the limited duration of many of the changes, Wallenburg et al. note "The striking thing about the development of job structuring is that, so far, it has hardly gone beyond the experimental stage; in other words, it has been applied only in the form of small-scale, short-term experiments." (1979, p.164). To the extent that these factors are apparent in the publications, then the marginal nature of such ideas must be reinforced; an opinion which receives support from the limited number of changes Wallenburg et al. (1979) found in the Netherlands, the relatively few organisations which are mentioned regarding work groups, and the over-emphasis and reporting of a few well-known and well-publicized examples.

In turn, the limited nature and extent of many of the changes helps explain the lack of information in many of the publications. When combined with the problems of maintaining access which journalists and others have to cope with, the paucity of information becomes more understandable. This, however, does not obviate the finding that there is selective presentation. What it brings into question is 'who is doing the selecting?' - the company or the reporter? Even though it can be shown that companies carefully prepare and screen the information which they make available to interested

observers, the role of reporters of work changes should be examined. Are they simply meant to regurgitate what they are fed by companies, to evaluate critically, or to probe into unanswered questions? While it would be easy to adopt an 'ought to' position, this is an aspect of reporters' (in the widest sense) activities which it would be interesting to investigate.

Overall, then, there is a broad correspondence between the findings of these three studies and the analysis made here of a sample of publications on AWGs. The positive aspects are stressed and unsuccessful experiments tend to go unreported. The internal and external validity of the reports is questionable in both. There is again a lack of information on the duration, extent and content of the changes. And finally, a tendency - though less marked with regard to AWG publications - for a few companies to be prominent.

PART THREE

(a) Knowledge of AWGs in the brewing industry

It is interesting to compare the descriptions of work groups given by the managers in the brewing industry and those emphasised in the publications and notice which dimensions have been noted and/or remembered in association with the idea. Twenty four respondents were asked about AWGs - if the phrase was recognised, and, if not, had they heard of the Volvo experiments? Only one had heard of neither, while 15 (63%) knew and could give a coherent explanation of the phrase AWGs, while another 8 (33%) knew of the work carried out at Volvo, and could go on to give some account of the changes there.

That the term 'AWG' was so often known or recognised seemed surprising given that the work 'autonomy' was only directly mentioned in 32 reports (40%). However, the work 'group' was used in 56 cases (70% of the total) thus it seems likely that it was the word 'group' which was picked up particularly by the 63% of the respondents who recognised the phrase.

Whilst only 14 of the 94 references to companies in the publications referred to Volvo, much closer association was made with Volvo in the interviews - 33% knowing of the company's work. But this should be interpreted with caution as it was the interviewer who initially mentioned the company, not the respondent. However, when the proportion of references to one company as a proportion of all references to other companies are compared we find that a much stronger association is made with Philips than with Saab, possible due to the fact that Philips has plants in the UK and that knowledge may be more easily obtained within, rather than across, borders. The greater emphasis on the UK in the interviews reflects the

question posed in the interviews which asked about work groups in Britain. That five of the 11 UK companies mentioned in the interviews were not mentioned in any of the publications in the sample suggests that reading might not be the only important source of information. However, in asking respondents where they had heard of the idea, 50. mentioned some publication: book, journal, magazine or newspaper, 8% mentioned TV or film; 4% a course, and the rest could not remember or didn't know. (The fact that such a large proportion - 38% - could not remember suggests 1) that no particular type of source is brought to mind regarding such topics, and by extension, identified when seeking information on such topics; and, 2) that the automatic or at least verbalised association is not with published material in a substantial proportion of cases).

The names of academics and others associated with work groups were not often mentioned in the interviews. But 13% of the respondents referred to the work of Trist & Bamforth or the Tavistock. And, in the publications, 11 of the 36 publications (35%) made reference to publications of members of the Tavistock, or to the Tavistock itself. Thus 35% of the publications made some reference to the work of the Tavistock while only 13% of the respondents made any such association. So, the stronger association in the publications with the work of the Tavistock was not reflected in the interviews.

The respondents were asked what they thought the phrase 'AWG' meant and what it entailed. To compare the proportion of respondents who mentioned various concepts with the proportion of reports which also mentioned those concepts might give some idea about what has been picked up, what neglected etc. Of course, as noted above, it cannot be assumed that all information input is through publications, and indeed, a good proportion is received from other sources. Nevertheless, it is interesting to compare the two.

Why work groups might be tried, and the benefits their application brings:

	<u>Interviews</u>		<u>Cases</u>	
Attitudes	9	39%	35	44%
Quality	4	17%	10	12.5%
Withdrawal (LT and AB)	3	13%	40	50%
Productivity	4	17%	32	40%
Costs	2	9%	9	11%
Flexibility	-	-	7	9%
Recruitment	1	4%	1	1%

These two sets of figures are not directly comparable - the first refers to reasons why work groups might or have been tried, and the second column to the benefits claimed in the cases. Nevertheless, the associations made with work groups and the problems they could deal with are likely to reflect the presentations. There are no tremendous differences between the figures but there is a greater emphasis on withdrawal (absenteeism and labour turnover) and productivity in the cases. This may be partly explained firstly by the fairly low LT which is experienced in the brewing industry; and secondly, by the nature of the brewing process which is continuous and therefore less able to be affected by theories such as AWGs.

It is interesting also to compare the aspects mentioned in the publications and those in interviews regarding AWGs. The difference between the number of mentions in publications and in interviews:

	<u>Number of aspects mentioned</u>			
	<u>Publica- tions¹</u>	<u>Inter- views²</u>	<u>More often mentioned in</u>	
			<u>Inter- views</u>	<u>Publica- tions</u>
Whole product	29%	50%	21%	
Problems (negative mention)	33%	8%		25%
Responsibility	61%	21%		40%
Autonomy	40%	8%		32%
Supervisory role changes	26%	13%		13%
Demarcation lines	1%	8%	7%	
Assembly line/operators	38%	33%		5%
Job enrichment	20%	25%	5%	
Job rotation/task interchange	20%	17%		3%
Group technology	6%	8%	2%	
Self contained/self governing or freedom from task direction	23%	21%		2%

(¹ N = 40) (² N = 24)

(many mentioned more than one aspect so there is a great deal of overlap)

It ought to be pointed out however that the publications were written by people who felt themselves qualified to write on the subject while the respondents could be expected neither to be very knowledgeable on the subject nor to be alive to the finer points. That there is so much correspondence between the two is, therefore, surprising.

Association with the ideas behind job enrichment, job rotation and group technology were made fairly evenly in both cases. Similarly, that work groups are often linked to assembly line methods of production was fairly equally noted. What has been classified as 'freedom from task direction' in work groups - the self-contained and self-governing group making its own decisions - was mentioned in a similar proportion of the samples. But regarding three aspects, perhaps the most central of work groups: responsibility, autonomy and the role of supervisors, there is a marked difference in mention - suggesting that these dimensions of work

groups whilst mentioned in publications are not given the same amount of attention as facets such as 'following a task through from start to finish'. It is this 'whole task' which was one of the few areas on which the respondents laid much stronger emphasis than did the publications. There is no obvious reasons why this aspect should have been stressed. It might reflect the greater attention which has been given to the Volvo company in the UK media where the car assembly workers carry out a number of jobs on a particular section of the car. It might be that it is this aspect which is presented as being the most central to the work group idea. It may be an eye-catching aspect given the earlier comments of the reality of demarcation lines in the UK. Or, it may be simply that it is the easiest to 'see' as being different and novel.

While no explicit mention was made of trade unions, the greater emphasis on demarcation lines in the interviews perhaps reflects this aspect where the respondents refer to matters which appear relevant or critical to them, yet the failure to mention trade unions is intriguing suggesting that reports are taken at face value with little consideration being given to applying the concept.

It is interesting that so little mention was made by the respondents of the problems which might be encountered in work groups - this probably reflects the tendency for publications to present a few problems yet proceed later to extol the benefits of the changes. This is particularly intriguing because of the respondents who gave an opinion on the success of the work at Volvo, four said it had been a success (two said a qualified success) whilst six said it had not been, and a further four expressed doubt about the outcome, e.g. 'some say yes, some no...'. Thus, whilst at least ten of the respondents were aware that the results at Volvo were not altogether good, only two respondents mentioned problem areas, suggesting perhaps that

any reportage of the failure of work at Volvo was as lacking in detailed information as the reports of success.

While there is unlikely to be an easy or necessary direct link between reading articles or books and implementing changes in work organisation, the appeal which the idea appears to enjoy in the brewing industry contrasts with the limited consideration its use has been given. There are a number of possible reasons for this, the most convincing being that the changes in work organisation have been associated with industries other than brewing and translation to the brewing or other industries not presented. Although work organisation changes have been undertaken in one brewing company, this has not been widely reported and knowledge of it within the brewing industry is very limited. Secondly, that such changes are associated with companies facing severe problems, a factor noted in the brewing interviews. The lack of consideration given to the idea may be due to other factors: the lack of clear reporting and the dearth of information regarding implementation; the failure of publications to confront practical issues such as trade unions, demarcation lines, etc. It may be that the respondents merely wished to appear au fait with, and appreciative of, such ideas because they are seen as 'advances' and by extension 'good' or that they wished merely to please the interviewer with regard to what they saw as her area of interest.

Generally then, although there is a rough correspondence between the dimensions of work groups which are mentioned in the publications and by the respondents, some important differences exist. These differences which relate primarily to the notion of responsible autonomy and of the resulting alteration to the supervisor's role are hard to explain. While they may have been played down in the publications (to evaluate the degree to which this has occurred would be an almost impossible task without lengthy

semantic analysis), their omission may be due to the existence in British industry of an image of the worker as 1) instrumental 2) unable to work without supervision; 3) in some way different from the European, and in particular the Scandinavian, worker. Indeed, the idiosyncrasies of the industrial relations sphere in Britain is an often heard comment.

That the aspect with least radical potential - the whole task which can lead to greater flexibility and hence adaptation to changing market demand - is the most mentioned, suggests that the idea of work groups has been de-radicalised. In emphasising a whole task, the ideas and philosophy of AWGs are neglected in favour of a usable and practical technique. By so doing any threat to managerial prerogatives has been neatly bypassed and a potentially radical idea defused. While caution would have to be taken in propounding this view, it is the case that the idea of AWGs has seldom, if ever, been implemented (and reported) in any way which compares favourably with the practices reported in coal-mining.

(b) Further Considerations

Underlying much of the discussion throughout the analysis of AWGs has been the notion of the model of man which is, sometimes implicitly, presented. If the worker is seen as being capable of a great deal more than is presently being demanded of him, there is likely to be a readier acceptance that substantial changes in work are necessary and vice versa. Looking more closely at the publications examined here, changes which involve groups of workers seem to be frequently presented as related to job rotation or enrichment. Although there is no reason why such changes should not include more than one kind of idea, it is unlikely that the model of man implicit in job rotation or even job enrichment bears much relation to the model presupposed by AWGs. The emphasis on the individual rather than on the group noted earlier should also be borne in mind here. While it is difficult

to make evaluations of the model of man presented in the publications, a tentative and admittedly subjective appraisal has been made.

Model of Man

	<u>Cases</u>	<u>Percentage</u>
Limited potential	48	60%
Considerable potential	20	25%
Excellent potential	5	6%
Militant	3	4%
Unclear/muddled/mixed	4	5%
	—	—
	80	100%
	==	==

From this, it seems that 60% of the publications present what might be called a 'limited' model of man or at least one which does not imply a potential of the workforce to accomplish much more than they already manage. 25% present a view of man as having considerable potential in the workplace.- in taking responsibility and participating in the affairs of the organisation. Only 4% of the publications present the employee as militant or as being in conflict with the aims of management, while 6% given an excellent model of man, as one who needs minimal or no supervision and who can operate autonomously for extended period of time. Nevertheless, the prevailing view of the worker (and most of the studies relate to shop floor workers) tends to be one which does not over-emphasise their capabilities or potential. A view in which management decides without participation or even consultation what is to be changed, how and when: that it is management that has the knowledge/experience/ability whereas the worker is implicitly seen to be lacking in these attributes.

However, it is difficult if not impossible to trace where this perspective comes from. Is a change programme embarked upon because the theory and the model of man it contains appeal to management? Are attempts made to modify, to deradicalise the theory when its use is planned? Does

the commentator present a view he thinks will be acceptable to his audience? Firstly, it is apparent that all theories or models for changes in the organisation contain a model of man. Secondly, it is apparent from many of the reports examined above, that the theories are modified within companies. Thirdly, the perspective offered by the commentator will in turn have its own model of man - in extolling or criticising changes, etc. It is extremely difficult to assert the primacy of one of these factors. Theories which are used, or, enjoy a measure of popularity, are those that appear and are likely in some way to meet the demands or at least coincide with views held in strategic areas of society. Which theories are used are selected from what is available, and informed perhaps also by previous theories and their implementation. Whether changes are worthy of reporting is decided upon by the publication editor as well as the journalist. Correspondingly, the access to further information depends on the stance taken by the company or organisation.

There is no easy answer to who and what processes affect the ideas which are presented in publications. There is a constant interaction between all the elements in the process: feeding-in to one another, taking cognizance of the presumed and known aims and interests of one another and influences from quite different spheres: government policies, prevailing interests in other areas, economic policies and many, many others. Similarly, there can be no simple identification of strategic gatekeepers to information - within a company or in the area of publication. Indeed, even the concept of a gatekeeper may be misleading.⁶² There are always other sources of information which can be tapped and other people who would wish to write or to publish the information.

If consideration is given to how ideas contained within the original conception of AWGs survived, it can be seen that quite a few have fallen by the wayside. There are problems in trying to consider this. For example: the term 'skill' regarding the 'all-round worker' of the coal-mines if used to refer to an assembly line worker who has been given a number of additional but similar tasks debases the original notion. To the extent that deskilling of shop floor workers has progressively occurred then relative to other jobs at the present moment the word 'skill' may not be so misleading. Similarly, the original work was undertaken over 30 years ago and it could be argued that changes in the orientations and perceptions of the workforce have occurred. Some changes have taken place. Most noticeable is the neglect of the common-paynote. Although a few reports mention the use of group bonus payments, this is in addition to an individual wage paid direct by the company and this could arguably lead to decreased solidarity between group members and, of course, fewer pressures on the individual by the group. That groups should be self-selected is similarly neglected - pointing once again to the management initiation of changes and to the lack of choice open to participants. The worker initiated feature of coal-mining groups is also missing and is an aspect closely linked to the seldom-mentioned need for a tradition of group working, or at least of autonomy in work practices.

While the original notion of responsible autonomy does seem to have been eroded, the publications do refer to the greater responsibility of the employee, a factor which receives muted support from the infrequent mention of a changed supervisory role. As noted earlier, the model of man presented in the publications does seem to be more limited than that presented by Trist and Bamforth. One aspect which does seem to have retained its importance, at least as reflected in the interviews, is that of a whole

task, a complete cycle of operations. Whatever the reason for this - to increase flexibility, to reduce the impact of absenteeism or labour turnover, etc. - it would appear that there is continued interest in reversing the trend to the fragmentation of tasks.

But the overall concept, with its radical implications and potential has suffered. There is good cause for saying that an idea which originated in the workforce has been taken up and used against them in an attempt to improve productivity, performance and attendance. Support for this comes from the type of benefits which are claimed with productivity, performance and attendance accounting for the large majority of claimed benefits. The fact that benefits to the workforce tend to be intangible, i.e. job satisfaction, while the benefits to management are only too tangible, lends further credence to this argument. Any gain in this way always seems to be matched by a gain in productivity. Indeed, in some cases this is made explicit as in Jenkins' report on Atlas-Copco where it is reported the total wage bill rose less than productivity.

The arguments put forward regarding the work of F.W. Taylor that management takes the knowledge of workers and hands it back to them piecemeal still seem to hold good in the case of AWGs. (see Braverman, 1974). Of course, ideas seldom survive in their entirety over time, parts being modified and refined. But that such a limited amount of detail is given in reports on work groups points to a simplifying process and one which reduces the chances of substantially altering the organisation of work through any system of idea which runs counter to the ideas prevailing - especially that of the current model of man. The lack of emphasis on the elimination, or substantially altered role, of the foreman points to an unwillingness or a resistance to see the worker as capable of controlling his own activities. The worker who is presented still has to be supervised, to be directed - he cannot

think for himself but needs to be issued with orders from his 'superiors': a view of the worker which has lost surprisingly little ground since its concrete formulation in the work of F.W. Taylor. Truly radical would be change in the ideas held about the worker rather than change merely in the practices regarding the organisation of work. It is of course hardly surprising to conclude that it is the philosophy rather than the techniques which are resisted - it would be surprising if it were otherwise. Management are hardly likely to adopt with alacrity a group of ideas whose impact would be to weaken or alter their control over industrial and other organisations.⁶³

Thus, an examination, and analysis of a sample, of the publications relating to AWGs has shown where, when and how such an idea is presented. A handful of people have been found to be rather prominent and the importance of a couple of management organisations - the BIM and IPM - suggested. The predominance of magazine/journal articles and academic authors was noted. The presentation of AWGs in a sample of publications was found to be somewhat missionary in flavour, lacking in concrete information, and with a tendency to be uncritical. The broad agreement with the findings here and those in three other studies in the field of work organisation suggests that the topic of AWGs is not too idiosyncratic. In comparing the findings regarding the publications with the comments of respondents in the brewing industry, the most notable aspects was the de-radicalisation of the AWG concept by the emphasis on the 'whole task' by the managers. This, in turn, suggested that, not surprisingly, it is techniques rather than changes in philosophy which managers abstract from the social or behavioural sciences.⁶⁴

CHAPTER FOUR

Organisations

CHAPTER FOUR

ORGANISATIONS

How do people in industry get their information? How and what are they told? One obvious way is through information-giving bodies. Various organisations have been specifically set up to act as information providers and advisers to industry. Having a distinctive competence as linkers they patently have a role to play in the diffusion of ideas and practices. But what role do such organisations play in diffusing ideas from industrial sociology? What amount and level of information do these organisations have regarding industrial sociology and AWGs? In what ways do they diffuse industrial sociology? What are the opinions in these organisations about industrial sociology? What demand is there from those in the industry for information on topics such as AWGs? Do the organisations initiate interest in a topic or do they respond to already expressed interest by those in industry?

(a) Method

In an attempt to find answers it was decided to approach a number of these organisations. Altogether 109 organisations were approached, ten of which were specifically concerned with the brewing industry. There were two particularly useful sources for information on organisations servicing British industry: the Directory of British Associations and Wilson et al's 'Social Science Research and Industry' (1971) - it seemed pointless to write to all the organisations listed in the D.B.A. - societies concerned with virology and science fiction writers hardly seemed very central to the enquiry: some selection was therefore necessary. While to some extent

the selection was arbitrary and personal, this was not necessarily critical for, in writing to organisations they in turn recommended others to contact, so that hopefully fair coverage was obtained. Other sources of information were also used, such as the WRU, the I.L.O.'s 'Management Productivity', 1976, (p.123-9), and individuals known to be working in the field.

Letters were written initially to all the various organisations discovered through reference books and personal knowledge, and secondly, to the other organisations recommended by those first written to. Thus, for instance, the Engineering Employers Federation recommended that the Management Centres of four of their Associations be approached, and the Council of Engineering Institutions recommended contacting its 52 engineering institutions members which it dealt with on questions of education and training.

The aims of the organisations varied. Many acted as a professional association and were concerned with running conferences, seminars, etc. as well as with professional examinations. Some were Employers Associations; some purely educational and training bodies; other were bodies with specific interests; while one or two were concerned with trade unionists. But all had some connection with, and interest in, industrial, commercial and administrative organisations.

Organisations from whom replies were received:

Professional association/institutes	40
Trade, employers and other associations for furthering business interests	16
Learned, scientific and technical societies	11
Educational organisations	9
Research associations	7
Others	18
	101

Information was obtained from 101 organisations. Six of these sources of information - those relating to the brewing industry - are not included in the results given immediately below; they will be discussed separately.

Thus replies from 95 organisations will be considered here.

Number of organisations approached	109
Did not reply	8
Replies received	101
Brewing industry associations etc.	6
Organisations considered here:	95

Regarding the non-replies from eight organisations, perhaps it can be assumed that either (a) they did not understand the question, with the likelihood that its phrases were not familiar to them, in turn implying that no activities relevant to industrial sociology or AWGs took place; or (b) that the topic and questions were deemed irrelevant and the letter not worth answering.

Only one person (employers association) commented on the letter itself:

"... I do not think your letter is very accessible to non-sociologists, and that this may therefore reduce the number of replies."

The letter which was sent read as follows:

Dear Sir,

As part of my Ph.D. thesis I am looking at the diffusion of the findings of industrial sociology to those in industry. The idea whose career I am particularly trying to trace is that of autonomous (or semi-autonomous) work groups. Can you tell me if any of the activities of your organisation are concerned 1) to foster the use of industrial sociology - whether through courses, seminars, conferences, publications, etc., and 2) concerned in any way with the idea of autonomous work groups? I do realise that these topics may be rather marginal to your main interests but I do hope you can help me find out how such ideas reach people in industry. I must apologise in advance for any inconvenience my requests might cause.

Yours faithfully,

Although it might have been useful to use the phrase 'behavioural science' as well as 'industrial sociology' in the letter this would have had two drawbacks. Firstly, the staff of organisations concerned to supply information may be expected to be more informed than their members, and to use two phrases (even though one may be more accessible) when they do not mean the same thing to the writer, and may very well not mean the same thing to the recipient, seemed likely to confuse the issue and also to be 'talking down'. Secondly, it was with the diffusion of industrial sociology that the letter was concerned, it would pre-empt the issue to decide a priori that at this point in the diffusion process 'industrial sociology' had already been translated into 'behavioural science'.

Regarding the phrase AWGs used in the letter, one person (professional association) referred to this as 'incomprehensible jargon' indicating unfamiliarity with the term and at least a little antagonism to the phrasing of the letter. One respondent (trade association) did mention, however, that AWGs are more likely to be known by the name of Group Technology by those in production management. Few criticisms were made of the letter. It was surprising because I had assumed both industrial sociology and AWGs would be somewhat esoteric areas of interest to most organisations. The assumption proved to be wrong. In fact, quite a few organisational spokesmen asserted the centrality of the topics.

(b) The Replies

The replies varied greatly in length and detail. A few telephoned rather than wrote because: 1) they were unsure of the terminology; 2) they wanted to discuss the matter in more detail; 3) and in some cases because they wished to talk about their own research work or interests. When they did telephone, the opportunity was taken to elicit more detailed

information which will be presented later. However, mainly the responses were written.

Not all directly answered the questions, some only answered one part, or obliquely answered another, a few merely said 'they could not help' while others gave detailed histories of the AWG idea and how it had diffused. Still others gave extensive lists of people and organisations to contact. To reduce the replies to the questions to a yes or no, is therefore, somewhat misleading. So although an attempt has been made to classify the responses in a fairly simple and levelling manner, the detailed comments will be reported later in order that the range of replies can be appreciated.

Regarding the conversations with, and letters from, individuals in the various organisations, two points need to be made. Firstly, that the information given may be specific to that individual and not reflect the official views of the organisation. This of course is a general problem in relation to any organisations. However, the wording of the letter made it clear that it was the organisation with which I was concerned and the respondents would be aware of that. It was in the comments which were also offered that more personal views were likely to be expressed. Secondly, in some organisations there are dozens of advisers and the information given will vary from person to person - it being likely that greater homogeneity will occur in the smaller organisations as a result of simpler communications, although individuality may also be found there. This is another aspect of such organisations which could bear investigation. This leads on to the problem that it is difficult to know the degree of anonymity which should be given to the replies. Telephone conversations, for instance, are likely to be

- a) more informative - not only in the possibly greater fullness of replies but also because nuances and inflections lead to further enquiry; and
- b) more personal in that views committed to paper stand as visible and concrete records and more likely to reflect standard organisational views.

Similarly, the people I spoke to were unlikely to assume that their replies were being recorded verbatim and the greater informality of the medium encourage expansiveness. Because of these considerations and in order not to give too great weight to one organisation by attributing comments, the replies will be classified only by type of organisation, e.g. employers association, professional association, etc. However, where the information being given is also publicly available, say, from the Director of British Associations or the organisation's promotional literature, then the name of the organisation will be given.

(c) Industrial Sociology

Are 'any of the activities of your organisation concerned to foster the use of industrial sociology through courses, seminars, publications, etc?'.

No output	60
Some output	35
Type of output:	
	Conferences/seminars/meetings 8
	Publications 11
	Courses 15
	'root of all our work' 1
	35

Thus, 35 out of the 95 organisations who replied had some sort of output on industrial sociology although its presence was not necessarily under that name.

A number of points emerge from the replies regarding industrial sociology output. 1) The amount and type of industrial sociology coverage varies. There is the direct and stated input in courses as in the Institution of Works Managers (Regulations & Syllabus for Courses in Industrial Management

Rev. 1978, p.14) which includes in its course for the Certificate of Industrial Management 'Behavioural Analysis' including 'Psychology and Sociology'. The topic headings here are Role, role theory, role conflict; Belief systems and industry. Interesting here is the use of the phrase 'Behavioural Analysis' to encompass subjects such as psychology, sociology, industrial relations, techniques of management of human resources. The industrial sociology included in courses is often at a very simple and basic level, e.g. "it is part of a qualification for the members that they should have studied at least and practiced certain of the cruder forms of industrial sociology." It seems that industrial sociology or sociology itself has been accepted by some organisations as an important part of management education. 2) The inclusion of industrial sociology in courses is not always stated. Thus while one respondent (management training centre of employers association) ran off the names of Burns & Stalker, Dubin, Etzioni, Gouldner, Ingham, Lupton, Perrow, Sayles, Silverman, etc. he went on to say:

"I personally would rarely mention any of these people by name although I would use their findings during courses on 'Management of People'. I see my role as translating academic studies into practical terms to stimulate ideas amongst managers on courses."

As it was aptly put by one person (educational organisation) "we preach various gospels without stating who were the disciples." The reluctance to name academics means that (a) it is topics rather than authors which will command attention although it is hard to say which is most limiting in future information-seeking; and, (b) those on courses are given potted versions of research and are not encouraged to pursue the topics in greater detail. 3) The emphasis was often on the practical rather than the academic: "Our approach to industrial sociology and psychology is essentially a practical one and is intended for laymen: We do not attempt to present these subjects from the point of view of the academics." (professional

association). That is perhaps a reflection of the attitudes in industry to theory and/or academics and suggests a reactive rather than proactive role being played by some organisations regarding industrial sociology.

4) Although industrial sociology may not be a recognizable input it may still be an important input. "We do not exactly teach industrial sociology, but it informs what and how we teach." (educational organisation). A similar point was made regarding the fostering of the use of industrial sociology "The Institute ... is not concerned to foster the use of industrial sociology amongst its members - there is no need, it lies at the root of all industrial relations consultant activity." (professional association) and again, one professional association

"is not concerned with fostering the use of industrial sociology per se.... Because of the close relationship between our two disciplines it would be impossible for us not to touch on many aspects of industrial sociology."

The importance of the distinction between permeation and practise is apparent here. 5) Even in organisations where industrial sociology plays no part in courses etc. it seems the climate of opinion toward it may be favourable "I believe that this is a topic which needs far more emphasis but I am not at all sure how the problem can be tackled." (professional association) Nevertheless, such awareness is not favourable enough to have triggered off any immediate action suggesting that, in fact, industrial sociology may be seen as relatively unimportant.

In over a third of the organisations, industrial sociology was in some way incorporated into their activities. Although the presence of industrial sociology was sometimes disguised, diffusion was nevertheless taking place. It was not possible, however, through the approach taken here to know either the weight given to industrial sociology by the organisation or the content of the industrial sociology output.

(d) AWGs

Only 28 of the 95 organisations had some output on, or connection with AWGs:

"Are any of the activities of your organisation concerned in any way with the idea of AWGs?"

Courses	6
Conferences/seminars/meetings	12
Publications	8
Members involved in/use when appropriate	2
	—
	28
	==

As with the industrial sociology output these categories mask a range of comments. Some outputs were straightforward and were said to be relevant such as a course which included a component on 'Work Design and Job Structuring' and a seminar on Job Satisfaction and Job Redesign. The different headings under which AWGs are presented illustrates both the problem of tracing the diffusion of an idea or practice and the lack of fine distinctions often made between ideas with common elements. Although some organisations were obviously enthusiastic about, and had been active in promoting interest in, the idea, the comments overall were very mixed and it is difficult to bring out any clear picture. Thus, one large employers association stated in April 1979 "The idea of AWGs is relatively new to the industrial scene, and although we have a fairly broad knowledge of industrial/human relations systems, we have little information on this particular subject." Yet an education association said "Nobody shouts about it now... because it's not as new as it was and it seems a bit more normal and a more successful way of arranging a new process." While a professional association replied

"The autonomous (or semi-autonomous) working group is an old and well tried mechanism in management and as such experienced consultants will make use of it when appropriate." Perhaps these views of AWGs reflect how long ago the respondent himself, rather than the organisation, heard of or attended to the idea. How often such a mechanism may be used in questionable, as one professional association spokesman said "we have little specifically to do with AWGs and our impression gained from talking to a number of people in industry, is that this was a fashion which has not particularly found favour and the mood of the moment seems to be against such principles." An explanation for this was given by a spokesman from an employers association training centre: "the notion of AWGs produces antagonism in those managers who see it as yet another inroad into their already diminished traditional role." One respondent (employers association) had closely looked into the number of AWGs which were functioning in the UK and found - of the six companies whose names he had been given - that some AWGs weren't working and the rest never had worked. The picture emerging here is that AWGs do not seem to be enjoying much favour at the moment. But contradiction was the underlying theme in the replies. Two of the organisations which were mentioned in the brewing interviews illustrate this well. According to one, there had been a lot of interest in the idea of AWGs and it was an interest which was 'growing'. Whereas in the other large organisation, there had apparently not been much interest, there having been courses on AWGs which had not been very successful and a poor response to a conference on work groups. This professional association respondent went on to say: "There is quite a lot going on in the area but really there are not so many big projects.... There are a lot of small things going on but they don't amount to much in total." However, another professional association pointed out:

"The fact that companies are not developing semi-autonomous working groups does not mean that the ideas have not percolated down to them. They may have rejected them on the grounds of being inappropriate or unproven. The academic's measure of success may be different from the manager's."

Again, a reminder that diffusion does not only mean use.

Obviously, the level of knowledge and awareness will vary from organisation to organisation depending in part on the people in it and their interests. It is, however, virtually impossible to identify the reasons for these differences. It could be that no demand has been expressed by members which in turn might mean they do not expect that particular organisation to cover such topics, or, that the members are not interested in it, or, that another organisation is meeting their information needs on the subject already. It may be that the organisation has invested heavily in promoting another idea which might overlap to some extent or that it does not wish to push too many ideas or packages at any one time. Or another, rival organisation, may have taken up the idea and perhaps as it were, 'cornered the market'.

It is difficult to make any general statements on the attitudes and practices in these organisations to the AWG idea. Perhaps the most that can be said is that interest is only lukewarm. However, one educational association mentioned having specialist advisers in the area of AWGs while four other large organisations knew of the people and organisation which had done work in the area. A professional association had undertaken a project:

"to develop an understanding of job re-design among members.... The main stimulus came from a small working party of senior /Institute/ members who felt that job re-design was worthy of closer analysis as a means of 'increasing organisational effectiveness and job satisfaction of employees'."

Here the greater awareness of and interest in the idea of AWGs seemed to exist. The presence of internal expertise is important in fostering diffusion. Although external specialists can always be called upon, having specialists on tap within the organisation means their services can be called upon more quickly, easily and cheaply (as is the case also regarding specialists in industrial organisations). There were, however, only two organisations, one professional and one educational association which had internal expertise on AWGs. This suggests 1) that most of these organisations are not called upon to give detailed advice on such topics; or 2) that there has been little demand for advice or information on AWGs; or, 3) that other organisations, such as the WRU, would be approached first for information on the topic.

Interestingly, one person (educational association) traced the career of the work group idea, in turn giving a picture of how diffusion can take place. The popularity of the idea:

"had a little to do with the fact that Bullock came along and people were looking for some method of participation, work groups was one of them. Then there was the disappearance of Bullock and now the CBI and BIM are drawing up codes of practice which do not mention job enrichment, only mention communication and production. So the emphasis has moved away but there wasn't a big move towards it in the first place. There are the problems of democracy - results."

Also on two occasions the association was made with Group Technology, pointing to the direction in which they felt AWGs had developed.

However, even if there is a somewhat low level of activity regarding workgroups, there is continuing interest in the topic: workshops and seminars are planned on it, visits are still being made to Scandinavia, courses are being designed which include components on work design and work structuring. Also, the influence of European activity is unlikely to diminish given the active role taken by governments abroad in promoting the QWL. The AWG idea therefore is likely to remain of interest although the level of interest may be less than that evident in the early 70's.

The importance of the role of these organisations in diffusing the idea of AWGs is hard to judge. There are a few major organisations which seem enthusiastic about the topic and appear to wish to encourage interest in the idea. However, many smaller organisations are more lukewarm in their attitudes and their role cannot be expected to be great regarding AWGs. What causes this difference is unknown. It may be that the larger organisations having a greater number of advisers, are more able to cover a wider variety of topics which the smaller organisations have to neglect. Or, the different attitudes may reflect members' use of organisations, the larger being called upon for the more esoteric areas of interest.

In comparing how organisations diffuse industrial sociology and AWGs it is interesting to note that industrial sociology is much more

<u>Industrial Sociology</u>	<u>AWGs</u>	<u>Where mentioned</u>
8	6	Confs./seminars/meetings
11	12	Publications
15	8	Courses
1	2	Root of all our work/members involved in

frequently mentioned in courses suggesting a fairly general level of acceptance as to its importance whereas AWGs are less often referred to in relation to courses and more often the topic in publications. This suggests that AWGs are a less accepted part of management education and yet a topic for which there is a fairly substantial demand, in turn giving some support to the notion that AWGs are one fashion amongst others in industrial circles. Again, this shows up difficulties in studying diffusion - the destination of different ideas or groups of ideas may influence how, and the extent to which, an idea diffuses.

(e) Recommended Contacts

In the replies to my letter, a third of the organisations (32 out of the 95) recommended that some other individual, organisation or other information source be contacted. The most frequently mentioned organisation was the Work Research Unit, mentioned on 12 occasions. 18 mentions were made of organisations such as the IPM, BIM, BACIE. Publications which should be consulted were mentioned 4 times, as were specific individuals. Most of the recommendations were to bodies or sources which I knew already to be in some way concerned with AWGs. Thus even in the organisations with no output, there is awareness and some knowledge of the topic. These results disguise the fact that one or two organisations made extensive recommendations (only their first being counted above) of a number of individuals and organisations but their inclusion would give a misleading picture of the level of information. The total results are as follows from the 32 organisations:

Work Research Unit	12	
Publications	4	(D.E. Gazette; 'Making work more satisfying - 2; Training)
Individuals	13	(Butteriss, Weir, Mumford, Wedderburn, C. Brown, Mangham, Damodaran, Willsmore, Romano, Blake, Bailey, Hallows)
Academic Institutes	4	(Newcastle Poly, London Business School, IRRU at Warwick, Administrative Staff College)
Individual Companies	5	(Shell, Babcock, Pilkingtons, ICI, BSC)
Organisations	18	(IPM - 4; IS - 2; Tavistock - 2; EEF - 2; IPA - 2; BIM - 2; Clothing ITB - 2; and one each for; ICQWL, SSRC, Quakers, BACIE, BSA, NFU, Agriculture TB, EANPC).

Recommendations for further contacts came from 19 organisations which had no industrial sociology output or concern with AWGs. Thus it would be easy to underestimate the amount of diffusion merely by looking at organisations' output on specific topics. Obviously, where recommendations are made, some level of awareness exists. It could even be argued that recommended contacts

are a surer indication of awareness than unsubstantiated claims about the importance of such topics.

(f) An overview of the replies

Ten organisations had an industrial sociology output but were not in any way concerned with AWGs. Only three organisations which had some concern with AWGs had no output on industrial sociology. Again, this supports the notion of the dissimilarity in diffusion patterns between industrial sociology and AWGs.

Thus, 25 institutions had information on both industrial sociology and AWGs.

3	"	"	"	"	AWGs only
10	"	"	"	"	industrial sociology only
19	"	gave recommended contacts only			
57					

Altogether 57 out of the 95 organisations (60%) had or could direct enquiries to information sources on industrial sociology or AWGs. Although the sample was selected with a view to identifying the organisations most likely to be aware of such ideas, the percentage of positive response is surprisingly high. That 35 out of 95 organisations had information on industrial sociology suggests that the subject has had quite an impact. However, nothing can be said here about the content of the industrial sociology which these organisations are aware of and use. Nevertheless, that the term industrial sociology is recognised and associated with various aspects of those organisations' activities suggests a more than passing awareness of the subject. It is surprising that fewer organisations (28 out of 95) had information on AWGs, suggesting: 1) that the idea is of less long-term interest; 2) that there is not a necessary correspondence made between industrial sociology and AWGs; supported by the figures which show 10 organisations

had an industrial sociology output only, and 3 an output on AWGs only;

3) that the type of interest in the two topics is different. For instance, it may be that AWGs are seen as a practical exercise and industrial sociology as a more theoretical contribution. This different perception of course is likely to influence the way these topics are presented and where they are presented. While it is possible to identify which organisations have knowledge or information on industrial sociology and AWGs, this alone gives us no indication of the impact of the organisation and its activities or the role of the organisation. For this reason, it was decided to look in greater depth at ten organisations.

(g) A closer look at ten organisations

One of the main drawbacks in treating these responses as equivalent is that some organisations have more members, a greater range of services, etc. and a potentially greater impact than others. Similarly, one organisation may have stronger links with one industry or with some grade of personnel; while others are general organisations which have a broad membership, affecting the services offered and the approach taken. To try to judge what organisations are most important within British industrial and commercial life is a task fraught with difficulties apart from identifying, say, the top three or four largest organisations. For this reason, it was decided to look in greater detail at ten organisations all of which were mentioned by respondents in the brewing industry. They are, in alphabetical order, The Association of Teachers of Management (ATM), British Association for Commercial and Industrial Education (BACIE), British Institute of Management (BIM), British Psychological Society (BPS) - (Division of Occupational Psychology-DOP), Confederation of British Industry (CBI), Industrial Participation Association (IPA), Industrial Society (IS), Institute of Management Services (IMS), Institute of Personnel Management (IPM), Institute of Supervisory Management (ISM), Institute of Training Officers (ITO).

If impact is measured by the sheer number of times a publication is received from an organisation, multiplied by the circulation of each publication, the BIM is easily the most prolific, followed by the IPM, the IMS and the CBI. Whilst the IS ranks sixth, below the ITO and above BACIE. Of course, these organisations have other activities and no attempt has been made to evaluate the impact of these. Nevertheless, some idea of the amount of use that is made of these organisations can be gained; the Management Information Centre at the BIM receives 8,000 enquiries per month and the BIM Library 2,000 loan requests per month. Similarly, in the IS, personnel management and industrial relations enquiries amount to about 1,000 enquiries per month.

It is worthwhile to look at the stated aims of the organisations because it gives an indication of the role they seek to play. Thus, for instance, the CBI acts as a spokesman for business viewpoints to government and to "promote the prosperity of British Industry." Only one other organisation undertakes a representational role (and that is of fairly recent origin) - the BIM, whose main aim is the "development of the art and science of management." The IS on the other hand, seeks to promote the best use of human resources in industry, commerce and public service, while the IPA in contrast, aims to help companies develop participation on a do-it-yourself basis. For most of the others, as professional and educational associations, one of the main aims is to maintain or to raise the standards of the profession.

One striking aspect about at least three organisations is that they foster contact between companies, and perhaps simultaneously reduce their own role. "We don't pass on research, we pass on the practice and we pass people onto organisations who are actually using something"; "Through the Association's Advisory Council members can be put in touch with others

Organisations	Sociology Output	Output	Other Contact	Membership	Publications	Frequency	Circulation
ATM	"Inappropriate Questions"	-	-	770	Management Education and Development	3 p.a.	1,100
BACIE	Publications	Publications	x	5,000 ¹	Bacie Journal	11 p.a.	4,750
BIM	Information	Bibliographies	x	43,372	Management Today; Management Review and Digest	12 p.a. 4 p.a.	75,000 n/a ²
BPS-DOP	Conferences	Members	x	1,300	Journal of Occupational Psychology	4 p.a.	1,300
CBI	Conferences	Advice	x	11,500	CBI Bulletin	24 p.a.	n/a ²
IPA	Publications	Conferences	-	2,000 ³	Industrial Participation	3 p.a.	2,000
IS	Information	Conferences	x	15,500	Industrial Society	6 p.a.	10,300
IMS	Publications	Courses	x	19,500	Management Services	12 p.a.	25,000
IPM	Publications	Courses	x	19,000	Personnel Management; Personnel Review; IPM Digest.	12 p.a. 4 p.a. 12 p.a.	26,000 1,750 19,000
ISM	Courses	Articles	x	11,542	Supervisory Management	4 p.a.	13,000
ITO	Publications	Meetings	x	5,700	Training	11, p.a.	n/a ²

(1 does not distinguish between individuals, firms and organisations as members

2 no figure for circulation given in Ulrich's - presume all members

3 estimated from circulation figure for journal)

that have met similar problems and challenges." In another, the organisation fosters networks between its members - industrial and academic - so that not only contact between firms takes place but also contact with the academic world. The organisations' roles as go-betweens mean that information is exchanged between companies in quite different industries - in addition to the usual channels such as trade and employers associations etc. And given that these organisations are used extensively as information courses, then their role in diffusion across industry is important. Certainly a number of these organisations have had contacts with the brewing industry. As officers (ATM, IPA, IS); as speakers (ATM, IPA, IS); and, through courses (BACIE, EEA Management Training Centre). These examples do no more than merely point to the type of contact and involvement most sectors of industry are likely to have with such organisations and it is unlikely that the brewing industry is atypical. However, there is obviously some contact - whether at first or second-hand - between brewing companies through organisations such as these. Similarly contact with other industries is increased, in turn affecting awareness of new practices and ideas. That some organisations actively seek to foster networks across industry (for whatever reason) is extremely interesting. In fostering networks their role in the diffusion process is greater than it at first appears. The strengthening of links between companies means, to the extent to which personal influence is important in diffusing practices and ideas, that the amount of diffusion increases and perhaps also the amount of adoption. Although information is initially sought from these organisations, the organisations do not seek to limit access to the information. In other words, no monopoly is sought, and by extension, censorship or selective presentation of the information is not really feasible. Nevertheless, the common information source is still the organisation and their role in diffusion obviously important.

(h) Industrial Training Boards (ITB)

ITBs are another type of organisation well placed to foster the flow of information between companies in the same, or related industries. Only two organisations which were particularly concerned with education and training recommended ITBs as further contacts for information, yet ITB representatives are to be found on the committees of organisations such as the IPA. But altogether there were surprisingly few references made to ITBs. While there are representatives from the Manpower Services Commission or Training Services Division on some committees no great claims can be made for the impact, or cognizance taken, of the ITBs by these organisations. This is interesting because acting as linkers between government and industry, it could be assumed that they have a strategic role to play. The role of the ITBs will be examined in greater detail later but it is worth bearing in mind their lack of impact on these organisations' activities. One organisation which might pre-empt the ITBs intermediary role between government and industry regarding industrial sociology and particularly with regard to AWGs, is the WRU.

(i) Work Research Unit (WRU)

There are a number of government financed bodies such as the SSRC, the DES Research Department, the Industrial Training Research Unit (ITRU) and perhaps even the newly formed Industrial Relations Training Research Centre (IRTRC) which pursue some interest in work organisation but it is the WRU which is most active in this field. Set up in 1974, its overall objective was "the stimulation of changes in the way in which work is organised in industry and commerce" (Butteriss, 1975, p.4). It is, as can be seen above, the single most recommended source of information on AWGs, 12 out of 32 organisations mentioning it. Unlike the BIM or BACIE it does not have members or charge subscriptions, it does, however, circulate at

regular intervals, information to 1900 people who have asked to be put on its mailing list. This figure is made up of 976 managers/trade unions officials - the vast majority being personnel managers; 872 academics and a few individuals; and 51 people who work for Training Boards. Its main aim is to provide information and it handles 200-300 enquiries per week. Bibliographies on a wide range of topics including AWGs are published regularly and sent to those on the mailing list and are available on request to anyone. Although the Unit has undertake consultancy work, it is not a service they offer. Rather attention is focussed on organising and attending conferences, seminars and workshops.

WRU members have contributed to the conferences of a large number of bodies such as the IPM, The British Society for Agricultural Labour Science (BSALS), BIM, NATFHE, Organisational Development Network, Royal Aeronautical Society (RAS), ACAS, Ergonomics Society, Institution of Training Officers, etc. It is intriguing therefore to discover that some of the organisations to which the WRU has contributed, have replied negatively regarding industrial sociology or AWGs, e.g. RAS, NATFHE, OD Network, when the questions specifically mentioned conferences and seminars. Of course, the WRU is concerned not only with AWGs but with micro-processors, job enrichment, communication, flexible working hours, etc. so that there may have been no mention of or interest in AWGs. Similarly, the topic may have been job design or work organisation, neither of which might be associated with AWGs which might have been an unfamiliar term. Whatever the reason, other enquiries are also presumably going to receive similar negative answers and if any information on the topic has been passed on, its impact is, or is being, limited by these organisations. It is worth noting that even though there is contact and information exchange between organisations such as with the WRU the dissemination which results from this may be patchy. And these three examples very clearly illustrate

the shadow effect caused by information not being transmitted, so that further diffusion is blocked. Certainly the WRU has had impact on other organisations, the number of recommended contacts point to that, and it has presumably had some impact on industrial organisations. Although in the past the WRU has sought to reach the information giving bodies and ITBs rather than try to contact industry and commerce directly, White & Jessup of the WRU report that "During the four years' of the Unit's existence meetings to explore these changes in work organisation have taken place in over 400 companies and from these some further assistance has been given to about 50." (1972, p.2) As with the ITBs, the role of the WRU will be looked at in greater detail later. From the above, however, the WRU does appear to have a role to play in the diffusion of information with respect to organisations. But it is worth noting that even though an organisation such as the WRU may be active in contributing to conferences, in providing an information service, etc. the impact of the organisation cannot be taken for granted. It may be the government base which reduces its impact, or because the services are free or that it is not highly rated by people in industry or that its expertise is too limited in scope. These are some of the factors which on the face of it could affect impact and therefore diffusion.

(j) Brewing Organisations

Only six out of ten bodies concerned with the brewing industry replied, perhaps because organisations such as the Incorporated Brewers Guild are concerned with technical rather than social factors. However, as this was not the case with societies in other sectors such as engineering, this explanation is not altogether convincing. Two of the bodies who replied were concerned with the publication of brewing magazines, yet another two similarly engaged did not reply. Maybe the explanation lies in the

fact that not one of the bodies concerned with brewing, which did reply, had any output on industrial sociology or were in any way concerned with AWGs. Thus, it may be that any information or impetus to change comes from outside the brewing industry, and that influence should be sought elsewhere. The lack of information available on industrial sociology and AWGs may simply be a reflection of the uses which the brewing industry makes of these organisations. This in turn acts as a reminder that it is necessary to look at both the organisations and the industry in order to evaluate diffusion. It is, after all, irrelevant how much information is available if there is no demand for it. Two of the six respondents did, however, recommend contacting some or all of the Big Brewers directly. This suggests that some level of information was held by brewing organisations on such matters but that it was at a fairly general level and implicitly, outside their scope. One organisation did, however, mention the interest of one of its executive members, who was also a senior member of a large brewing company, in work organisation and similar topics, so there was obviously a relatively higher level of information in this association. Nevertheless, that the majority of these organisations were not very forthcoming with information, although disappointing, may be indicative of both a low level of interest in such areas and an unwillingness to divulge information to those outside the brewing industry. Indeed, one person who had been carrying out some research in the European brewing industry relating to work organisation made this latter point in relation to the main U.K. brewing association. It is an aspect which receives some support from the traditional 'club' atmosphere found in brewing, and it is likely that bodies associated with brewing would have similar orientations. It may be that the lack of output on industrial sociology and AWGs found in the brewing organisations is also to be found in other industry-specific organisations. However, this would require

Careful research - it does not, for instance, appear to apply to the engineering industry which, of course, covers a much larger range of companies than brewing.

(k) Comments by Organisational Spokesmen

In addition to, and sometimes in place of, comments on industrial sociology and AWGs, many organisations suggested aspects which they felt were important to the questions I was asking. Some of these are worth noting because they round out the picture of organisations and echo the attitudes and practices which emerged elsewhere in the research.

(i) Practical Experience:

As with the ITBs, some organisations which undertook consultancy or advisory work stressed the need for industrial experience in its staff. "Basically we employ managers who have been in industry and have developed interests in special areas while they were in industry and then they join us. When they join they would be given a course in the very basics of behavioural science." (educational association) That theory and academic approaches are not highly valued is evident from comments cited earlier. On the same lines, one adviser pointed out "We're a pragmatic bunch; ex-industry people - personnel people for the most part." (educational/research association). With the result that "not many people would have much detailed knowledge about the behavioural sciences." This emphasis on practical experience is one that recurs throughout the research, and was found to be particularly strong within the brewing industry. It seems likely that those bodies which serve industry reflect in part the attitudes prevalent in the industries they deal with.

(ii) Expertise in Organisations

Some members of staff in the organisations do have extensive knowledge of the behavioural/social sciences, For instance, one adviser had recently spent a year at Lancaster with Colin Brown, another had a Masters degree in behavioural science, another a Ph.D. Similarly, if the respondent did not have detailed knowledge he often knew of someone within the organisation who could have knowledge and/or where to go outside the organisation for that information. The backgrounds of the staff of these organisations need further investigation. But the presence of well-qualified personnel in these organisations should be remembered, even though there is no information available to their prevalence.

(iii) Topic Selection

An important aspect in looking at the role of organisations in the diffusion of ideas, is the selection of topics and activities which are covered by the organisation. Do these organisations merely react to their members' demands or do they seek to initiate interest in certain topics? In other words, who picks up ideas and practices first? - people in industry or people in organisations? The picture which emerges is not altogether clear. To a "large extent we cater for customers' wishes" using questionnaires or circulars to find out which topics they would like, yet "in addition we also feel we have to cover topics which ought to be covered because they are important or issues which people ought to be informed about." (educational/research association). While there are what one person called 'bread and butter things' there are also attempts to think ahead to areas of need: "Knowing the area we have a gut feeling for the job and what topics are going to be relevant." (educational association).

One professional organisation gave a fairly detailed run down on what happens regarding topic selection. The Director and a senior Board colleague will decide on a 'good list of topics' to be covered in conferences. Any choice made by the Directors will be informed by input from three sources within the organisation: from the executive committee - composed of chairmen and directors of member companies who meet quarterly and act as advisers; from the Advisory Council of about fifty companies (there being a separate meeting for the large and small companies) which meets twice per annum and at which the participants float ideas. Finally, ideas, interests and abilities of the organisation's staff will be taken into account. If this organisation is typical, topic selection comes neither from industry nor from organisations alone. Each of the inputs to Board and Directors decisions will reflect what is being discussed in a number of places - in other organisations, in the media, in industry and commerce, in educational circles. Although some organisations, as in the first example, will actively seek members' views these will not be considered in isolation from what is going on elsewhere. These organisations are, after all, part and parcel of other networks of information - they can no more be seen in isolation from industry than they can from the rest of society. A fact which makes the study of diffusion less than straightforward.

(iv) Choosing Speakers

When the organisation does not itself have the expertise to call upon for conferences and seminars what affects its choice of speakers? The outstanding feature of the replies to the question 'how are conference speakers chosen?' was that the speakers would be known already. Thus in one professional association they had 'contact books', in another they "draw from our experience of companies, people and organisations" so that

the topics are decided then we "think who we know and then ask how good is he?". "Speakers are selected because they are known, either through their writing or by reputation in a particular field." However, "advisers build up contacts", and less well-known and even untried people are approached. Thus

"informal channels are also frequently used: one speaker may recommend another, those attending courses may do so and so also do active members of the Institute's Working Parties and Committees. Speakers come from a variety of backgrounds, but are most frequently from academic or research institutions, Management Consultancies or hold Senior Managerial posts in private industry." (professional association)

So it is not a closed circle - new blood can and does come in, so that there is unlikely to be a shortage of new ideas or perspectives. Again, those people who are established in the field do not enjoy a monopoly, both their position and ideas may be challenged by aspiring newcomers. Thus, no simple operation of a selective presentation of ideas such as AWGs can be argued.

(v) Inter-Connections

One of the most important aspects of these organisations which has so far not been mentioned is the existence of connections between some organisations. These connections exist at a number of levels:

- 1) Executive and ordinary members may participate in other organisations;
- 2) joint programmes are undertaken e.g. ATM and SSRC;
- 3) some are affiliated to others e.g. BACIE/ITO; BIM/Institute of Works Managers.
- 4) Staff may move from one organisation to another, e.g. from the IS to the CBI;
- 5) Staff may be members of another organisation.

To give an idea of an executive's contacts outside an organisation, we can look at W. Bree, appointed Deputy Director General of the BIM in 1977 who, according to the BIM's Management Review and Digest was a member of the UGC's Business and Management Studies Sub-Committee; on the joint council of the Foundation for Management Education (associated with the BIM). He was also a governor of North East London Polytechnic-Chairman of the Policy Committee of the Anglian Regional Management Centre and a Member of the Court of Governors of Brunel University.

The problem of tracing diffusion become apparent - these organisations and their staff are involved in a variety of networks. These inter-connections not only involve other organisations but extend to many other areas such as the academic sphere. There is also the fostering of networks by some organisations, as well as the inevitable and unplanned establishment of networks, within industry through common membership of organisations. It is to the operation of networks that the evidence consistently points - not only when looking at organisations but also as regards other linkers and those in the brewing industry. It is a concept which has been neglected in the research on diffusion (at least in respect to the linking function - the importance of networks in fostering adoption has been noted with regard to rural populations). Although the concept of networks makes more complex the tracing of the diffusion process, it does help explain why tracing the career of any idea has always proved difficult. Obviously, ideas reach a diverse number of people simultaneously when the networks operate. Correspondingly, notions such as serendipity lose some of their credibility. Such a notion may even obscure the operation of networks.

It is the importance of personal contact which seems to be remarkable regarding diffusion. Publications or other impersonal media seem to be secondary to personal influence. This finding, of course, should come as no surprise - Katz and Lazarsfeld, for instance, have well documented the importance of personal influence. Similarly, Stacey, showed the existence and importance of personal connections and the "closely interlocking relationships" (1960, p.83).

(1) Conclusion

It appears that a substantial proportion of these organisations have some output on industrial sociology and AWGs (35 and 28 out of 95 respectively) while 19 out of 95 knew where to go for further information. Obviously these organisations have a role to play in diffusing such ideas. Hardly surprising given that it is in the area of information-supplying in which they have expertise. But the role of the industry specific organisations of the brewing industry was exceedingly limited - not one had any output on industrial sociology or AWGs. Is this the case in other industry-specific organisations? As regards feeding information to organisations, then the ITBs have surprisingly little impact, whereas the WRU has had a noticeable impact, judging by the large number of recommendations made to contact the Unit.

How the organisations inform their members and the role they play varies. Although the presence of industrial sociology is not always direct or stated it is more often incorporated into courses whereas AWGs tend more often to be presented in publications. In turn, the presence of AWGs would appear to be clearer - its inclusion is not ambiguous and its diffusion is as originally suspected, easier to trace. Secondly, the role played by the organisations varies both in importance and method. A most interesting finding here was the discovery that three of the ten

organisations examined in greater depth were concerned to foster networks between their members and within industry. This reliance on personal contact is an aspect of diffusion which will emerge repeatedly throughout the research.

It is, however, difficult to evaluate the impact of individual organisations. Their activities and the interest in them varies. Although it was not investigated here, it is possible that one of the factors may be the personality of the director. Some organisations have well-known spokesmen, the late John Methven of the CBI, John Garnett of the IS, whereas the directors of others, like the BIM and IPM are less familiar names. Clark suggests "there is strong evidence to indicate that such institutes are dominated by key figures with strong charismatic/ogre-like images" (1972, p.3). Similarly, the geographical locations of organisations may be important and the extent to which member companies are situated near at hand.⁶⁴ Of course, impact may be related simply to the number of members and number of publications so that those who are dominant are likely to remain so. It will be interesting to look at the opinions held of such organisations in one industry in order to answer some of these questions.

Regarding the amount and level of information which these organisations put out, little can be said. Some organisations did have specialist advisers on AWGs, and some had well-qualified personnel in the behavioural sciences/ industrial sociology. But it would be hard to make any generalisations here - further research is necessary. The speakers chosen by these organisations tend to be (but not always) well-known. This suggests (a) there is unlikely to be a (successful) selective presentation of ideas, and (b) that through using established speakers in the field, there may not necessarily be a great difference in the information output of various organisations.

That so many organisational spokesmen recognised and used the term industrial sociology, yet often the courses offered by the organisations referred to behavioural science, suggests that a shift in terminology from 'industrial sociology' to 'behavioural science' takes place within these organisations, although the reasons are not obvious. It may be that it reflects views of academics or theoretical subjects held within industry, which after all, these organisations have to reach, and please. But again, these organisations role as linkers and translators is apparent.

The climate of opinion regarding AWGs is very mixed - some organisations seeking to promote it, others seeing it as somewhat passe or at least not new. Again the demand for information on the topic varies. Very little can be said here without more extensive research.

More generally regarding the role of organisations in initiating or reacting to, interest in a topic, it appears that there is no straightforward influence. Rather, organisations reflect what is happening around them and making their own contribution in the process.

What does emerge in looking at organisations is the importance of networks and interconnections. Interconnections between organisations and other areas such as academia; networks between organisations, fostered within industry through organisational membership. It is the importance of personal contact which recurs - of knowing people and talking to people, getting information at first rather than second-hand. Of allowing personal influence to be exerted. A finding which re-emerges in relation to others in the linking function as well as those in the brewing industry.

CHAPTER FIVE

Industrial Training Boards

CHAPTER FIVE

INDUSTRIAL TRAINING BOARDS

Industrial Training Boards (ITBs) were investigated separately for two reasons: (a) Two ITBs have been prominent in implementing AWGs. (b) ITBs are uniquely placed to play potentially a large role in diffusion. Occupying the middle ground between government and industry, they reach a variety of audiences within companies. Being involved with the human side of industry and having fewer financial concerns than independent information-giving organisations, ITBs are especially likely to be involved in diffusing industrial sociology. Yet a number of respondents - in the linking role and in industry - stated that ITBs were not at all important as linkers. The role of ITBs obviously needed investigating. Do they have a role to play, If they do act to diffuse information relating to industrial sociology and AWGs, what, how, and to whom, do they diffuse such information, What demand exists for their knowledge and expertise in the different industries and types of company? How do they compare with other organisations seeking to inform industry? What affects the role of ITBs in diffusion? The activities of ITBs are by their nature, in seeking the acceptance and commitment of industry to training closely concerned with diffusion. For this reason not only are the activities of the ITBs of interest but their comments on their role and on industry are interesting to study. Approaches were made to the various ITBs. Before looking at the outcome of these, a short resumé of the background to ITBs will be helpful, showing the parameters within which they operate.

1. The Background of ITBs

ITBs were formed as a result of the 1964 Industrial Training Act, to improve the amount and quality of training in British industry. There are now 28 ITBs (including the National Water Council). The ITBs vary greatly - in the numbers employed and the industries within the scope of each Board; in the number of ITB staff; in the range of companies. The minimum size of firm which comes within the scope of an ITB varies from industry to industry, as does the levy which each ITB was given powers to raise on the payroll of the companies which would come within its scope.

The Chairman of each ITB is often someone who has recently retired from a senior position in industry, there are equal numbers of employer and trade union representatives, and a smaller number of members from educational bodies. Governmental bodies, of course, take some interest in the activities of the Boards, the main one (since 1973) being, the Manpower Services Commission (MSC). This was set up amongst other things, to coordinate the activities of the ITBs and to meet their operating costs (given that companies which met the ITBs' criteria for training provision should be exempt from levy). Both the CBI and the TUC are equally represented in the MSC.

Concern regarding the possibility that the ITBs will become an instrument of government policy has been expressed by some ITBs. For instance, within the Engineering ITB "There was a widespread feeling that since the 1973 Act, training boards had become more and more instruments of Government social policy. There was, however, broad support for the idea that the EITB existed to serve the engineering industry and was ultimately responsible to it for its policies and achievements." (EITB Accounts 1978/9, p.3).

must always be taken of the different environments in which they operate.

any parallels between the activities of the various Boards, account will affect the role and impact of the ITBs. In drawing, therefore, changes while in others the manpower needs are increasing. All these growing, some static, some declining; some facing rapid technological Conditions faced by the various industries are different - some

governmental bodies, etc.

ships with educational bodies, trades unions, firms, trade associations, trade associations etc. Thus the ITBs must maintain a number of relations- scope of that ITB. There are also likely to be contacts made through and those with a varied product range which are not totally within the Apart from leviable firms the Boards will have contact with small firms amongst others. Within industry ITBs have contact with a range of firms. MSC but also include NEDO and the Education and Careers Advisory Service Board contacts with governmental bodies are not restricted to the

to the proper focus and interest of the Boards. government and industry which in turn leads to statements (see above) as industry is exacerbated by the Boards pig-in-the-middle position between industry will increase. The ambivalence of this role vis-a-vis the rather than as members of an industry, their marginality in relation to is apparent. To the extent that ITB staff see themselves as trainers antagonism or resistance from companies. The marginality of their role industry with whose problems they are familiar, ITB staff may encounter are not always enthusiastic. Recruited from, and trying to serve, an selves. As will be seen from the brewing interviews, attitudes to ITBs are recruited and the peculiar position in which those staff find them- importance of the industrial background from which training board staff The somewhat uneasy alliance with governmental bodies underlines the

2. Method

Twenty six training boards were written to (including the National Water Council but excluding the Gas ITB and the Local Government TB) and were asked 'if any of the activities of the Training Board are 1) concerned with fostering the use of industrial sociology - whether through training, conferences, seminars, etc., and 2) concerned in any way with the idea of awgs?' The letters were addressed to 'The Secretary' with the hope that they, as with similar general enquiries by people in the industry, would be passed to the appropriate person. This reasoning overlooked the fact, later discovered, that some ITBs have given individual advisers a specific sector(s) for which they were to be the main contact.

All twenty six ITBs eventually replied, four by telephone, twenty two by letter. Of the latter, five suggested I visit the ITB and visits were arranged accordingly. Through the telephone calls and visits, a greater amount of information was obtained on the ITBs which will be presented first (see Table).

ITBs contacted	26
Replied by letter	22
" " telephone	<u>4</u> <u>26</u>
Greater amount of information obtained:	
Visits to ITBs	5
Telephone conversations	<u>4</u>
	9 ITBS
	=

3. Comments from ITB Spokesmen

Before looking at the ITBs activities regarding industrial sociology and AWGs some comments by ITB spokesmen will be discussed. Information on a number of aspects of ITBs was obtained from 9 respondents as a result of telephone and/or face-to-face conversations. The topics include the impact of ITBs, their information sources and contacts as well as the role of the ITBs. The spokesmen's comments help give a clearer picture of the interaction of ITBs and their industry in turn giving an appreciation of the factors involved in the attention given by ITBs to AWGs and industrial sociology.

(i) The Role of ITBs:

Some comments about the Boards, their staff and activities were made which illustrate the factors affecting the role of ITBs. Although one respondent could state that "the... Training Board is probably the main disseminator of the findings of industrial sociology to /the industry/ ..." the importance and impact of the Training Boards varies from industry to industry and the special industrial environment of each Board was constantly stressed.

Given that "An ITB is set by the culture of the industry", three factors were repeatedly mentioned as affecting the activities of the ITBs:

1. the variety of companies within the scope of the ITBs - in size, product and method of production,
2. the climate of the industry and attitudes to change,
3. the economic conditions facing the industry.

A more varied range of companies means a more difficult job for ITBs with different traditions not only towards training but to recruitment and change. Thus the willingness to undertake training programmes in labour-

intensive industries facing a recession in the market and/or cheap imports is likely to be substantially different from that of a capital-intensive and technologically sophisticated industry where labour costs are insignificant. If companies are "fighting for survival" it is not surprising that a particular industry is "anti-training". However, industries enjoying stability in markets and profits can become "smug" and end up being equally disinterested in training. There may be, (as was found in the brewing industry) an accent on the practical: "a manager is someone who can make bricks"; "In the roles they perform technical dimensions are valued substantially, management techniques very little." Thus, a number of aspects can affect the receptivity of firms to ITBs and to any changes in work organisation they might advocate.

Other factors play a part. The size of company: "It is the largest companies who use us most". Attitudes to training: "The companies which need us least use us most." The ownership of the company: "American-based companies are much more open to training and development schemes" or, in the 'family' company - which dominates in some sectors - there may be a "rejection of anyone from outside." The composition of the labour force: young/old, skilled/unskilled, etc. will also affect the role of the ITB. Similarly, when an "industry is known for its high quality of graduate and the numbers it takes in", the demands made of the ITB in terms of training will be quite different. The presence or absence of graduates in an industry may be reflected in the ITB staff, recruited as they are from that industry, and in turn in the degree of emphasis on the need for practical experiences.

But the impact of the ITB also depends on the ITB itself. It may lack a range of specialist staff to deal with multifarious problems and its organisation may mean that some geographical areas are neglected in favour of more densely populated areas. Similarly "Success varies with region, possibly due to the personality of the regional manager." A lack of communication may reduce impact. One ITBs' survey in 1978 "indicated that the Board did not communicate sufficiently with its industry about its capabilities and achievements nor about its relationship with other agencies and organisations in the training and manpower fields." (Chemical ITB Accounts, August, 1978, p.29). Thus, it can be seen that there are numerous factors which can affect the role played by ITBs in diffusion. Bearing these in mind, it will be interesting to look at the ITBs own evaluation of their impact, and by extension their potential role in diffusion.

(ii) The Impact of ITBs

When the respondents were asked about the impact of their ITB, most were cautious: e.g. "If the ... ITB has managed to do anything it is this, that we have caused people to think about management training", or that the Board "has acted as a catalyst" in promoting new ideas. But no great claims were made, perhaps due to the precariousness of their position in relation to government spending cuts - keenly felt at the time as cuts had already substantially reduced their budgets. While one commentator felt the Board had "quite an effect" and in one industry there was a "very high regard and acceptance of training" in another "in terms of management education our influence is minimal". Again the size of company was referred to, but negatively, the very large companies having "their own training machine - they don't come to us in droves."

To evaluate the impact of ITBs on the industries within their scope would be an exceedingly complicated and time-consuming exercise (and one that is currently being undertaken by the MSC) and it was not the intention to do so. But to the extent that the ITB is "the crucial informant" regarding new techniques in training and work organisation, as one respondent claimed of the Board, then they obviously have a gatekeeping role. So much so, that if the adviser "picks up the wrong end of a stick, then they [the companies] get the wrong end of the stick." With regard to subjects like industrial sociology, the Board can "act as interpreters or blockers by de-jargonising a topic so that people can recognise it, or keep it in jargon and people don't become so interested..." At the same time, an ITB can recruit people with behavioural science backgrounds (if that is seen to be relevant or desirable) which in turn will affect the information offered and available to the industry, as well as perhaps any innovations which are undertaken.

Assuming that ITBs do have some impact in relation to diffusion, what level of expertise do they have regarding industrial sociology? Although only a few of the people talked to in ITBs had "a behavioural science background", in most there was someone who had had a substantial input of 'behavioural science' (their phrase) somewhere in their training and who presumably could be called upon for information and advice. In another; it had been considered: "We have thought about taking on someone from the social sciences, but only thought about it." In at least 5 ITBs there is a separate research department and it is there that graduates and especially behavioural/social scientists are more likely to be found. One ITB boasts 5 graduates - sociologists and social scientists - in its research department. But this is the exception rather than the rule. The continually mentioned need for practical experience within the industry is

likely to militate against recruits having behavioural or social science backgrounds as graduates in these subjects (traditionally) appear to have shunned industrial careers.

Lack of a behavioural science background is not necessarily crucial, for as one training adviser pointed out "we have all done small courses". It is possible, also, that the 'informed amateur' (see the brewing industry section) is more enthusiastic about topics from the social sciences than someone with formal training. Nevertheless, the degree of expertise in ITBs relating to industrial sociology is not high and this must affect their role in diffusing ideas from this source.

Impressive was the range of experience which the respondents had in industry, often in more than one industry, whilst two had experience in other ITBs and one in the WRU. The companies in which the respondents had worked, tended to be very large, and occasionally, multi-national. While a number of advisers had been in the training function this was not always the case, some coming from areas such as work study, sales and engineering. That there was any particular function from which ITB staff were recruited was not mentioned, merely that "we take on people who have had managerial or executive responsibility - we're fairly firm in that...." However, in another TB, the respondent pointed out:

"We have never been in the business of direct training - officially. But we tend to employ trainers - they come in as advisers and don't want to lose their skills as trainers. So increasingly, we have been involved in semi-direct training....".

The existence of such industrial experience suggests that ITB personnel are likely to reflect the views of industry regarding the social sciences. However, their heavy involvement in training and their ambiguous role in relation to industry may counteract this influence, so that there may be an attempt to overcome resistance to ideas from areas such as industrial sociology.

Re-cap: It becomes clearer here that Boards to a large extent do reflect their industry - whether the economic conditions which are being experienced, or the composition of the workforce. But the impact of ITBs is also related to the Board itself - on the effectiveness of its communication with the industry and its level of expertise. The centrality of industrial experience was emphasised and this accounts for the impressive range of industrial experience which was found.

(iii) Inter-ITB Contact

One of the aims in putting the ITBs under the umbrella of the MSC was to foster communication between ITBs, and to encourage the use of each other's resources. But there has been a "noted failure of the MSC here", according to one ITB spokesman.

Despite the existence of the Inter-Training Board Liaison Group there is neither frequent nor fruitful contact. Occasionally there are joint projects with another Board but generally there is little contact: "as far as going to other ITBs and seeing what they know, then not as much as I would like." Four people mentioned one other Board with whom they had 'an established contact' - (Not necessarily where there was an overlap in scope) while two said there was no contact other than through the Inter-Board Meeting. Only one Board had a number of contacts with other ITBs through their attending seminars held by the Board, by using material developed in other Boards, as well as calling upon one another's experiences. What is most surprising is the lack of contact between Boards who have been trying innovations in work organisation. This, in turn, must negatively affect the ITBs role in diffusion. Given the common problems which many ITBs must face, this lack of contact is astonishing. And it is one which does not go unnoticed in industry (see the brewing interviews).

(iv) External Contacts

What contacts are important to ITBs? In looking at this the breadth of ITBs' information sources and the potential channels of diffusion can be discovered. Only six people were asked about organisations with which they had contact, so remarks here should be treated with great caution. The BIM was mentioned on 4 occasions, the IS on 3, and the CBI and IPM twice. Other organisations were mentioned once: the ATM, Institute of Marketing, Institute of Work Study, Institute of Electrical Engineers. Both the relatively high mention of the IS and low mention of the IPM is worth noting. One person referred to networks of which he was, or hoped to be, a member: the OD Network, Future Networks, Long Range Planning Network through which information is exchanged, and contacts made with a wide cross-section of people, especially from large companies. These amateur 'Think-Tanks' run sessions in which various issues - current and future - are discussed and through which "strategic people" are met. "We get into networks because we think this is the way you have to operate" that is, by creating a mass through which ideas can become influential. The ITB was atypical, this level of sophistication was not encountered in the other ITBs visited and this ITB was known by others to be 'advanced'. Given that this ITB was in a capital-intensive industry dominated by multi-nationals, this sophistication is understandable.

As was found in the brewing industry, the attention paid to published material is not great: "We do read, but we don't go through journals systematically..."; "We get so little time to look at the stuff which comes in...". One respondent said, he "didn't rate magazines as a fantastically good source of information. If you read articles on something, all it does is alert you to what it's about. You couldn't use what was in the article."

Organisations and the material they produce do not appear to be very important as information sources, or by extension, as influential channels of diffusion. Rather, it is personal contacts that are important to Board staff: academics; commercial consultants; ex-colleagues; training organisations. Respondents in regional ITB offices tended (as was found in regional brewing companies) to only have local contacts with polytechnics, universities etc. Academic contacts had been actively sought by some Boards: "We have picked off people we think we would like to talk to, quite deliberately." The respondent from this Board mentioned a very large number of people in the USA and Europe. While the others mentioned less exotic names, there does seem to be substantial contact with academics and others. Some ITBs sponsored research workers in universities and business schools, others had contact with researchers working in the industry or in fields in which the Board was particularly interested or involved. Attitudes to academics, however, were not always favourable: "We fall across them from time to time" - not the most enthusiastic response!

To illustrate how the industry affects the ITB it is interesting to compare the academic contact and research interests of two boards: one from a capital-intensive industry dominated by huge companies where high profits were the norm and continuing growth was anticipated, the other from a labour-intensive industry where there was a large proportion of small firms, where profits were low or non-existent and the future exceedingly gloomy. The former had been variously concerned with strategic planning, organisational analysis, organisational implications of interventions, impact of international trends and has an impressive list of international contacts. In the second industry, attention has been focussed on self-organised groups in an attempt to increase the flexibility of the work-

force so it can adapt to a constantly changing market in which company survival is uncertain. The contacts were not only local but related to this one research activity. Thus, while the latter is concerned with fire-fighting, in helping the small companies survive in an increasingly hostile world; the former can adopt a more relaxed and long-sighted approach where potential problems can be identified and avoided. Thus there appear to be quite large disparities between the activities and capabilities of the Boards, primarily reflecting the industry covered.⁶⁵ If ITBs reflect and react to their industry it means organisations other than ITBs first inform people in industry.

As regards the institutional bases of individual contacts a surprisingly large number of universities were mentioned.

<u>Institutional contacts:</u>	Universities	18
	Business Schools	9
	Colleges	8
	Polytechnics	5
	Governmental Bodies	2
		—
		42 (mentioned by 9 respondents)
		==

A third of these referred to universities known to be interested in industrial matters, e.g. Loughborough, Bath, Brunel. That so many of the other universities have undertaken research or acted as advisers to the ITBs is interesting. Perhaps association with ITBs is more acceptable than association with industry itself, serving as the ITBs do both trade union and employer interests, so that while the universities can claim to be undertaking 'relevant' work, it cannot be seen (or at least not so clearly) to be serving the interests of the powerful alone. This close relationship with the academic sphere is interesting as it suggests that

ITBs do have a genuine linking function; acting as intermediaries between the academic and industrial spheres, although the potential of that function has not been fully realized. For instance, from the respondents' comments the suggestion emerges that the impact of ITBs in any industry is very much dependent on an individual or individuals in the ITB rather than on the position and role of the Board itself.

Contacts are also made through research projects and interests pursued within ITBs, in turn increasing the information input to, and available from, ITBs. The areas in which research is being carried out or programmes initiated, depends on the interests of individuals within the ITBs. There was quite clear evidence of ITB personnel having hobby-horses: one person had been "completely sold on the idea of a training group system"; or "we had a staff member who went overboard on organisational analysis"; "We ran a couple of outdoor courses - we did them because we had a man in the Board who had a great interest in this kind of training." The survival of these ideas depends on the individual and his position within the Board. If he leaves the idea is likely to be dropped or, at least, less enthusiastically promoted. The increasing turnover in ITB staff means that a 'flavour of the year' situation exists in some boards. Others within the Board, having seen ideas and people come and go, may be sceptical and cynical about new ideas. But the range of contacts of the ITB will be extended and the awareness of new ideas increased by individuals hobby-horses. In turn new recruits could feel they have to find their own 'special interest' and while this might encourage fads, individuals could become informed specialists in a particular area or type of training. However, the impact of these individuals' enthusiasms is not necessarily great. For the field training staff may be unaware or not fully aware of the developments within the Board, a factor appreciated in at least one ITB (see Chemical ITB Accounts for year 1978, p.29).

To briefly summarise the above:

- 1) the centrality of personal contacts emerged
- 2) the lack of use of other ITBs and linking organisations and their information output was found, and,
- 3) it is the individuals who work for ITBs who are important rather than the activities of the ITBs per se.

These findings imply a hit-or-miss approach of ITBs suggesting their lack of institutionalisation and a lack of a clear role in relation to industry. Another notable finding was the existence of one respondent who participated in the networks - at organisational and personal levels - mentioned by other linkers.

4. Industrial Sociology

In the letters sent to the 26 ITB's, they were asked what, if any, of the activities of the Training Board are concerned with fostering the use of industrial sociology, as well as being asked whether they were concerned in any way with AWGs.

Regarding the use made of industrial sociology, it was surprising that five of the replies made no mention of this question, suggesting that it was seen as part of (and perhaps implicit in) their response on AWGs. That the question was unsatisfactorily posed is given support from the rather vague responses. However nine Boards indicated that industrial sociology was disseminated through training courses, while a further 10 said that the findings of industrial sociology were in some way incorporated into their activities, e.g. seminars, publications. A great deal of variety is concealed within these replies. For instance, in one ITB the 'only course which is vaguely relevant' was for supervisors and included a 'brief discussion' of 'the importance of treating people

as individuals". Another replied:

"... we have not consciously fostered the use of industrial sociology per se in our industry through training courses, conferences, seminars, etc. However, we obviously pay attention to sociological principles and aspects in the design, provision, content and improvement of our training courses, just as we are aware of the value of applying ideas, etc. from the fields of psychology and behavioural science. Training courses in the area of staff management skills are those most likely to feature concepts drawn from the field of industrial sociology in their actual content."

Only one said that they had no connection with industrial sociology, while another stated "the impact of industrial sociologists on the industry is minimal."

"What, if any, of the activities of the Training Board are concerned with fostering the use of industrial sociology?"

No reply to question	5
In training courses	9
Seminars, incorporated	10
No industrial sociology/minimal	2
	—
	26
	==

That the attitudes of those in the industry affects the presentation of ideas is apparent. Thus: "All the work we do has an element of industrial sociology..." and went on to say that in the industry "even in the most sophisticated management development teams, the last thing you can talk about is behavioural science... any hint of manipulation. They're really not interested in this sort of thing.... Young managers get interested but get wrapped up in the immediate situation and the interest is not put into action." On similar lines, in an industry where the managers see themselves as "tough, quick decision-makers" and there is "a rejection of paperwork" it is unlikely that ideas from industrial

sociology or behavioural science will be welcomed. However, a few respondents pointed out the differences between small and large firms. In a large, well-known firm "which is fairly sophisticated, most people would understand the basic concepts" but in the industry generally, while:

"the demand for managers dealing with people has of necessity become more intense, awareness of concepts and how groups work, autonomous work groups, enriching jobs is virtually non-existent. There is an enormous barrier of scepticism even to the very basics..."

In another industry it was felt that "the US manager responds more to behavioural approaches."

Of course, the negative attitudes found in parts of the industry do not necessarily deter the ITBs from pursuing such topics themselves. Thus various publications have been produced by the ITBs over the years on job design, job enrichment, worker motivation, group working, communications, etc. and there are a variety of courses such as "The Management of Human Resources"; "Job Redesign for Motivation and Profit" which might well stimulate greater interest.

Two Boards referred to specific activities which related to industrial sociology: in one, communication studies in organisations within the industry; in the other, through the introduction of job enrichment and job flexibility/re-training schemes. Interestingly, another Board had recently appointed a Training Development Officer who had worked in the WRU at one time and whose brief was "to try and develop an input into the industry in just this area /industrial sociology/...". Somewhat surprisingly, six references to behavioural science were made in the replies despite the sole use of the term industrial sociology in my letter. While this change might have been related to a connection of AWGs being made with the term 'behavioural sciences', in all of these

cases AWGs were referred to quite separately. While a distinction was made between industrial sociology and behavioural sciences in one instance, in the other five the two terms were used synonymously. This finding was surprising because the respondents were obviously familiar with both terms yet made no distinction between them. If ITBs are important regarding training and the introduction of new concepts, it is only to be expected that the terms will be similarly confused in industry.

5. Autonomous Work Groups

As to whether or not ITBs had been "concerned in any way with the idea of AWGs?", of the 26 ITBs seven said there had been some implementation of AWGs within their industry: Agriculture, Chemical, Clothing, Cotton, Food, Footwear and Knitting. Two of these recommended contact be made direct - in one case to the firm concerned and in the other to the body which had been involved in the implementation, the Industrial Training Research Unit (ITRU). All the other 5 Boards were visited or in one case, representatives visited Durham. Contact was made with the ITRU but not with the named company.⁶⁶ Fifteen of the boards said that no work groups had been implemented. However, in three ITBs, the claim was made that group working already existed in the work practices of the industry, e.g. in one industry there are teams "where the members of the group have degrees of flexibility in the range of duties they perform during a working shift. The flexibility is not such that all members can and do perform all the duties. Members at the top of the team have carried out all other jobs in the team in their progression to leading hand status. The most junior member of the team whilst filling the 'bottom' job role has to be trained in the requirements of the next two jobs on the promotion ladder for flexibility purposes."⁶⁷

One person said that the Board stressed the value of training processes being based on 'family groups' of employees - indicating less familiarity with the term AWGs. Thus in only one Board was there questionable knowledge of the term AWGs.

AWGs

No work groups in the industry	15
Some implementation of work groups	7
Work groups already exist in the industry	3
Possible unfamiliarity with the term	1
	—
	26
	==

Re-cap: It appears that in a surprisingly high number of industries, some implementation of AWGs had taken place whereas nineteen of the 26 ITBs made some use of industrial sociology. Although the ITBs, to some extent, must reflect their industry, they do pursue topics of interest to Board members. Whether the choice of topics reflects the attitudes of the industry of course is another matter. That it was larger firms and American managers who were most likely to be familiar with behavioural concepts, was again mentioned. The inter-changeability of the terms industrial sociology and behavioural science suggests that ITBs do play a part in fostering the use of the latter rather than the former in industry.

6. The Use of AWGs

How active have ITBs been in trying to change the organisation of work? Seven ITBs claimed they had carried out or had knowledge of attempts to introduce awgs in their industry. In four of these, the work groups had been implemented by ITB personnel - with the help of others such as the ITRU, or university researchers. Within the Boards, the groups were very much the sole concern of one person. It seemed that if these people were to leave their respective Boards, any future attempt to introduce work groups would be short-lived. This is important if interest in the idea is not underwritten by the Board and institutionalised in its activities, the long-term impact of ITBs on the diffusion of such practices will not be great. Although the medium of diffusion is the ITB and the access it provides, the linkers are individuals. A point which brings into question the role and impact of ITBs in the diffusion process.

On further investigation it transpired that changes in work organisation rather than work groups had been attempted by two of the Boards.⁶⁸ Although both sought to increase the skills and responsibilities of sections of the workforce it was not AWG ideas as such which were behind the programmes. One of these Boards has helped introduce changes in more than half a dozen companies, and the other ITB is offering this service to companies within its scope.⁶⁹ Both programmes are worth noting because they are part of, and must influence, the general attitudes in the industry (to the extent that they are diffused) and alert to the possibilities of alternative forms of work organisation. Although in neither case was publicity sought for or by the companies involved, information packages were available from one Board - 25 of which had already been sold and another 50 were being produced - and about 20 seminars had been held. The other Board had written an article on the work they had done in a large company and the service they offered.

Of the five Boards where AWGs had been tried, one was "not a great practical success" and in another the outcome was "inconclusive". (Only one attempt at introducing work groups in both of these industries were mentioned - it seems no further attempts were made or have been planned.) Thus in only three ITBs was there a measure of success or continuing interest in AWGs. While in one of these cases it was not the Board but the ITRU which had been in some way involved with the company, in the other two it was very much the activities of the ITB which were crucial. Of these two, one Board's interest had been stimulated by the ITRU and its involvement in one company after which the company approached the Board for some finance for the project. In the other it was as a result of the initiative of the Board itself.

Looking at the diffusion which had been attempted in these three cases, the approaches have been quite different:

1. Where the company had contact with the ITRU - the only known attempt at AWGs in the industry - the name of the company was referred to by a number of respondents both within and outside the ITBs. While a booklet has been produced by the company, it is only recently that the work has been given greater publicity.
2. Initial contact with the ITRU resulted in a number of Board publications and various articles. Articles have appeared in a training journal, in a trade journal and in the Board's own bulletin. Various publications are available from the Board on request. Due to a number of attempts by companies to use one of these publications as a do-it-yourself guide, a warning has had to be added in the booklet to the effect that each company is different, the introduction of groups is a complex process of organisational development with repercussions in the roles of management and supervisors. A number of seminars and

workshops have been organised, conferences addressed, and personal visits to those making enquiries are made. To date, more than 10 attempts have been made to introduce group working, not all successful. Greatest publicity has been given to the original implementation.

3. Although the anonymity of the company is carefully maintained, the idea is being suggested to other companies on the lines of "why don't you get your girls together in a group". And companies which express interest have been visited by the person involved in the earlier work. The ITB has produced a booklet on group working and this is sent to selected companies. No articles have been published, seminars organised or conferences addressed and there seems to be no knowledge of the work outside the industry. As the respondent said "We are not pushing the work group idea as yet."

Thus 2 Boards had helped diffuse the work they had been doing while 1 had not. However, the ITBs role in diffusion is apparent here. The information point in these three cases remained the ITB itself. There "doesn't seem to be any contact between firms". While companies might visit another firm after talking with the Board, the information source is quite clearly the ITB. There is no evidence here to suggest that any diffusion takes place between companies alone or through other bodies such as Trade Associations. In one Board which had tried changes other than work groups, a "loose network of companies has been fostered" but the lynch-pin is very much the ITB. However, the Board is trying to reduce the role of the ITB and presumably foster diffusion by arranging that firms which have tried the new method of working will present their work and their results in seminars composed of companies in this network. In the two cases where the attempts at work groups had not been very successful, little attempt had been made to diffuse the work. In one case, the

researchers had produced a large booklet, reporting the attempt but this was published through the university and did not appear to have received wide circulation. No information was available regarding the other Board. The diffusion which takes place therefore is very much dependent on the steps taken to promote the idea in any particular ITB.

While knowledge of changes tried in other industries existed and some Boards had even been visited, there was no spontaneous reference to another ITB. Any contact had either been some time ago or had been incidental. Thus it was not really surprising that they were so unaware of each other's activities regarding awgs. Interestingly, one of the Boards which has been involved in 'changes in work boundaries' as he put it, had had some contact with other training boards, three of whom had attended seminars which the ITB concerned had organised. This same board had also established contact with one ITB which had tried AWGs with the result that: "We used some of their material". But on the whole there was a noticeable lack of contact between ITBs involved in changes in work organisation.

By extension; it seems that visits to companies in other industries in the U.K. are arranged independently of ITBs. Perhaps this merely reflects the relatively recent interest which ITBs have taken in this area. If their activities become better known, their role may correspondingly increase. Thus ITBs can be important for diffusion within their industry yet not important in relation to other industries.

Although contacts between ITBs are limited, within the industry each Board carried out a number of information giving activities and it is well worth listing some of these in order to give an appreciation of the many ways through which diffusion can take place.

There are, as one training adviser pointed out, direct and indirect methods through which to reach individual companies. Direct methods include: ITB Bulletin/Newsletter; various publications on the services they offer; trade exhibitions; conferences; personal visits; requested information; seminars; workshops; training courses and films.

Indirect methods include: Articles in journals - regional/national; national press; Employers Associations; educational bodies.

Whether all these information providing sources have much of an impact on the industry concerned is a matter for conjecture. However, in the brewing industry, the impact of the ITBs in the field of work organisation was not found to be great.⁷⁰

As regards information sources on AWGs for the seven ITBs which tried some change in working practices, six had contact with the ITRU, three with the WRU and two with the Tavistock.

It is worth noting that there was no direct connection made with the WRU and AWGs or the Quality of Working Life (QWL). In fact, the impact of the WRU here seems to be very limited. The WRU was not normally (three exceptions) mentioned by any of the 26 respondents in letter or conversation without prompting. Even when respondents were asked about information sources on AWGs, the Unit was only once mentioned. Given that, as one person remarked, the role of the WRU was "to monitor and coordinate work" in the area of the QWL and that ITBs are one of the agencies to whom information is regularly sent, the impact of the Unit is not notable.

Other organisations were contacted at the information seeking stage, but each was only mentioned once: CBI, Department of Industry, BIM, ILO, IPM, BSALS. Thus quite a range of bodies were identified as information

resources in this area. Only two of these bodies contributed to or participated in the implementation of the changes: the ITRU and a member of the WRU. In one instance, a consultant was used and she worked in close collaboration with the ITB. In another, university researchers implemented the changes, the ITB being used to provide the necessary training courses. The IS and Industrial Training Services were used by one Board "to help with the training although they did not know much about group working". Similarly, some contact has taken place between the MRC Social and Applied Psychology Unit and an ITB.

It is hard to see a clear pattern in all this. Only in one instance had the ITB alone initiated interest, sought information and implemented (with the help of the company's management) changes in work organisation. In the others, another agency or individual has been involved in stimulating interest within the industry (and presumably the Board as well) or in helping implement the changes. It is not possible from the information obtained to evaluate adequately the contribution of these others. Nevertheless, the ITRU has been less concerned with AWGs in recent years and its work in the field was mostly carried out some time ago. The WRU, Tavistock and MRC Unit have recently been involved and appear to have a continuing interest in this area. It also seems likely that the information giving bodies will maintain some role in this area. Certainly, the BSALS (now the Agriculture Manpower Society) "actively promotes interest in the totality of the human resource and every employer and farm labourer should be a member" (Armstrong & Lloyd, 1974, p.136)

It seems as though interest is being maintained at a fairly low level. Although one ITB expressed some disillusion with the idea, it still intended to promote the use of AWGs. Five of the ITBs are currently involved in some way with changes in work organisation. Although three of these are concerned with AWGs it may be that the idea is losing ground

in favour of more general changes in work organisation (or that the AWG idea has stimulated interest in work organisation). Interest is still being generated in industry: "A company has so far expressed an interest in job satisfaction/motivation theory and has asked me to come along and see 'whether I have got any ideas'. A simple start, but hopefully something will develop!"

7. Overview

Although ITBs somewhat uneasily occupy the middle-ground between industry and government, their impact on industry as regards attempts to change the organisation of work is apparent. The association with government policies has not necessarily limited their impact. The impressive range of industrial experience which many Board staff have, must give them quite an edge not only in convincing or persuading managements to try changes but also in being aware through experience of the problems which are likely to arise yet it seems that ITBs are often under-used. There is a lack of organisational contacts - whether with bodies like the BIM or with other ITBs - and a reliance on individual contacts - reflecting practices in industry. There are a large number of contacts in educational institutions suggesting that ITB personnel in their somewhat ambiguous position seek a group with whom they can identify and be identified. Distancing themselves from government and at the same time trying to maintain credibility as trainers and experts - contact with academics and others in educational establishments would seem to neatly fit the bill.

As far as diffusion is concerned, some Boards have definitely played a substantial role and obviously enjoy an important position within that industry. But individual firms and other Boards make contact directly with companies in other industries illustrating that ITBs are often by-passed, and other channels of communication preferred. An idea of what these other channels are may be obtained from the brewing interviews.

Both ITBs and the linking organisations have a role to play in diffusion through their various activities such as courses, publications, seminars, etc. But the governmental base and the less voluntary nature of the relationship with industry will negatively affect the impact of ITBs. Yet, there are many similarities between ITBs and linking organisations. The backgrounds of their staff and the stress put on industrial experience help account for this. The incorporating of industrial sociology into courses yet disguising its presence reflects an understanding of the antagonism of industry to the theoretical and to academics. Yet ITBs due to their preoccupation with training, are much less antagonistic to the academic sphere than organisations and, as a result are more likely to pick up ideas from this source. So it is not surprising to find that the level of knowledge or interest within the ITBs in work organisation and work groups appears to be relatively higher. Although potentially more innovative, it appears as will be seen from the brewing interviews that the ITBs have a lesser impact than linking organisations. As an information resource for linking organisations, ITBs do not seem to play a large role. Indeed, in all the spheres which are examined here, the ITBs role seems to be very limited. It is intriguing therefore that the ITBs should be responsible for, or have played a part in, the introduction of AWGs in so many cases. Perhaps

this can be explained by the presence of individuals in the ITBs who are enthusiastic about AWGs and whose personal contacts rather than those of the Board have been important. And it is the interests of individuals which have consistently emerged as important in the operations of ITBs suggesting that the impact of the Boards per se is not great.

There is a continuing, if muted, interest in AWGs but it is an interest which is pursued in isolation from that of other Boards, a factor which again will minimise the potential role of the ITBs and the popularity enjoyed by the AWG idea.

It is worth reiterating the finding that a number of ITB respondents used the term industrial sociology and behavioural science synonymously (as was found in the linking organisations). Insofar as ITBs do have a role to play in diffusion, the usage of terminology is likely to be reflected in industry.

It is interesting that the impact of the WRU on the ITBs is also low, whereas the linking organisations were far more aware of the Unit as an information source. Whether this is due to the shared governmental base of the WRU and the ITBs or reflects the greater stress on information provision by linking organisations is debateable. Nevertheless the impact of both the WRU and the ITB appears limited and one of the most obvious common factors is the governmental base - a base which may negatively affect diffusion.

CHAPTER SIX

The Linkers

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THE LINKERS

Linking is not simply limited to information-giving organisations and ITBs. There are a whole range of others - consultants, journalists, academics, etc. who have a role to play in linking the areas of production and consumption. These linkers are not a homogeneous or easily distinguishable group. They occupy positions ranging from academic chairs to directorships of companies, and an assortment of occupations in between. Little is known about their activities. How do they select ideas to pass on to other audiences? What criteria do they use? Why do they pass on knowledge? Are the needs and problems of a particular audience primary or is it merely a wish to make money, for instance, by writing a best-selling topical book? What idea do they have of their audiences? What feedback do they receive from their audiences? How do they reach their audiences? What are the preferred and most rewarding methods? What is their relation to other linkers and to those in the spheres of production and consumption? Is linking a major activity for them? These and other questions informed the closer look which was taken at linkers. The problem was to know where to begin and how to identify the linkers in the field.

The approach was made from a number of directions and over quite a lengthy period of time. The authors, magazines and newspapers producing the most books and articles on AWGs were identified from the publications and approached. Organisations - both commercial and governmental, which were already known to be fostering the use or awareness of AWGs were contacted. Similarly, some university units, known to be carrying out

consultancy work in the field were contacted. After the interviews in the brewing industry had been carried out, the most frequently mentioned management consultancy firms were approached. Finally, individuals who had been identified as important in the field by other respondents were contacted.⁷¹ The respondents had one thing in common - all had been identified as in some way important or involved in the diffusion of concepts such as AWGs.

Altogether 33 organisations or individuals were contacted. Of these, 19 were interviews or more accurately lengthy conversations, and 14 were restricted to the telephone. While telephone conversations are not to be recommended as the best way to obtain information, some people felt they could give sufficient information over the telephone or were unable to meet me and in a few cases could not spare the time. Magazine and newspaper staff and those from consultancy firms were not official spokesmen for their organisations and while they may have made generally applicable statements on practices, the conversations were, for the most part, concerned with the views and practices of individuals. This is one of the major problems in this type of approach. While it would undoubtedly be informative to have approached a cross-section of staff from specific organisations it was not feasible on two counts. Firstly, the importance of any one of these groups was not known at the outset and it would have been foolhardy to place too great an emphasis on such an unknown quantity. Secondly, resources - both time and money, limited the amount of attention which could be given to any particular group of linkers. Thus, the findings in this area are intended only to be suggestive of possible fruitful future lines of inquiry. Nevertheless it is not known how truly representative these individuals are of the organisations approached. It could be argued, for instance, that amongst journalists and management

consultants there is a tendency away from homogeneity in organisations, greater stress being put on individuality, But at the same time, there will undoubtedly be organisational norms - not only in the selection of those recruited, but in behaviour and practices of members. Thus, while the views of one or two people are of as much interest as other members of staff, their possibly idiosyncratic nature should be borne in mind. However, it may well be that attention given to an idea reflects an individual rather than an organisational interest - as was found in the case of ITBs. In turn, this may mean that the specific organisational base of the respondent is not very important and that the individual's interest in a topic would emerge in a variety of organisational settings. This question as to whether it is the organisation or the individual which acts as the linker is one which will be given attention in this section. While it would be illuminating to name the respondents, to do so would be to abuse their confidence.

Not all the respondents fitted into neat categories: authors undertook teaching and consultancy work; consultants also wrote articles and acted as advisers to training boards; journalists wrote books. Classifying the respondents by their primary activity, the numbers talked to were as follows.

The Linkers:

<u>Primary Activity</u>	<u>Interviews</u>	<u>Telephoned</u>	
Staff members in academic/educational institutions	6	3	
Newspaper, magazine, free-lance journalists	3	4	
Consultants: commercial, in-house, research-oriented	5	4	
Information giving organisations - advisory staff	-	3	
Governmental bodies or part-government financed	5	-	
	<u>19</u>	<u>14</u>	33

It is, however, the multiple roles and activities of these respondents which stand out, underlining the crucial role which such people play. Influencing a number of spheres and in turn being influenced by those contacts, none of the activities can be seen in isolation from the others. Thus, what happens in the world of consultancy influences what is written about, or researched, or taught, etc. The interdependency of these areas of activity is a factor which will re-emerge throughout the interviews and which in turn gives greater support to the notion of a network of linkers. That is, linkers who act to synthesise and in effect diffuse the ideas being presented to other linkers. Thus, linkers might be more correctly seen as linking in two major ways: picking up and passing on information from the producers to the consumers of knowledge more or less directly; and, picking up and passing on information from one to another set of linkers and eventually feeding into the first process. But this aspect also means that it is virtually impossible to pinpoint origins of, and influences on, ideas, except in the most general terms, or to apportion greater or lesser weight to one rather than another activity (although some of the respondents did so). There were two main roles which the linkers played: that of journalists - in the widest sense; and consultants.

JOURNALISTS

None of the journalists spoken to had a degree in any way connected with social or behavioural science or business/management. The respondents from the three magazines only knew of one staff writer out of a total of 11 who had a 'behavioural science degree'. In general, the habit was to "pick things up as we go along". The phrase 'pure journalist' was used regarding a person who had no academic qualifications but who had 'served

his or her time' in journalism. As in the brewing industry and the ITBs, in the organisation's and consultancy firms practical experience was highly valued: "I have a knowledge gained from experience - I think it is invaluable. I think it is more valuable than any academic experience."

(magazine journalist) Also, courses were not highly thought of: "I've been to some - but boring mainly; I prefer to go to a guru and milk him, rather than go on a course run along the lines of his thinking."

(magazine journalist) And while contacts with academics were fairly frequent, they were seen as 'amateurs': "I prefer to go and interview them and get a better article out of it. Most of them can't write - no style." (magazine journalist)

The impact and role of staff writers should not be overestimated. A large amount of unsolicited material is received by magazines and journals. As Tunstall put it: "News organisations act as magnets for news or would-be news." (1971, p.16). Somewhere between one fifth and one quarter were accepted. The remainder being deemed as "not being worth the editorial effort to put right; and anyway, they tend not to be original." (free lance consultant) The proportion of articles written by staff members of a magazine, in two cases was only around 20%. Although the unsolicited material is subjected to editorial scrutiny, re-writing and cutting, it does mean that there is a wider topic choice and type of presentation, not restricted to a few individuals. Explaining why so many articles on AWGs had appeared, one (magazine journalist) pointed out: "topics are suggested by outsiders mainly, and more people have written on that than anything else." These outsiders will range from free-lance journalists, to practising managers, to academics. Others may be regular contributors although not staff members. These contributors may have similar arrangements with other magazines - both in the U.K. and

overseas, and while they can strictly be called free-lance journalists, this phrase obscures the established nature of their contact.

Another way in which articles are obtained is through commissioning, in one magazine - this accounted for 12-14% of the articles. Newspapers, for special reports, and magazines, for longer features articles, often rely on commissions for a substantial proportion of these. The criteria for choosing people to write articles varies. While one magazine prefers authors who are not academics but practising managers (the firm worked for will be taken into account); others have less specified criteria. "We keep our eyes on newspapers, technical journals and trade journals - get people who have done something." (magazine journalist) The attempt is made to:

"choose the best in the field who are not tied to any other organisation. You need someone with technical knowledge of the field and also the ability to put this into a much broader aspect - and the implications for managers and employees." (magazine journalist)

The emphasis is on those who have already published and whose work is known. But it is by no means a closed shop - writers of unsolicited articles may later be asked to write other articles, or as in one case, offered a permanent job as a staff writer. Thus it is not the most difficult field to enter although the huge number of unsolicited articles does mean that an article has to have fairly apparent appeal.

It appeared from the publications that there were very few non-staff writers who had written more than one or two articles on AWGs. However, two free-lance writers were identified who had written a good number of articles, one of whom never submits unsolicited material: articles "are always asked for and always paid for. I tell them they have plenty of people who are prepared to write articles free of charge - if they want them from me, they have to pay." (free lance consultant)

Obviously an author who is known in the field and can rely on established contacts. This respondent relied much more on consultancy than writing for her income. Both these people turned out to be very much more qualified in industrial and management matters than the journalists. One, having obtained an engineering degree, had extensive experience in various industries and in staff and line functions, had been a senior member of a college's Management department. He not only wrote articles but had also written a book, was a consultant to an Industrial Training Board, acted as an examiner to a professional organisation, did a fair amount of teaching on management development and had actively investigated the Volvo experiments. Yet, he claimed no contact with journalists. Staff writers on the other hand made no mention of industrial experience but the most frequent experience was some movement within the world of journalism, moves not always to similar fields of interest. It is abilities in writing and presentation which are valued in journalists, not depth of knowledge in any particular area. Thus the free-lance journalist will be more highly informed in the few areas on which he or she writes, whereas the staff writer must be prepared and able to write on any topic or area of interest.

This lack of specialisation combined with 'picking things up as they go along' means that journalists may easily misrepresent their sources through not being sufficiently informed on the topic. Thus Krieghbaum noted "A charge of 'sensationalism' in handling news is probably the one criticism most frequently cited by scientists." (1968, p.162) "Sensationalism" need not be only inaccuracies, untruths or excessive public relations. It may arise from misdirected emphasis and shifting facts out of context." (Krieghbaum, 1968, p.165). There is also as Krieghbaum goes on to point out, a difference between scientific

accuracy and headline accuracy (1968, p.38). Partly this is because the journalist seeks to capture and keep his readers' interest. The academic's careful qualifications, dissembling and dislike of being pinned down (see Sharpe, L.J., 1975) has little appeal to an audience which wants from the mass media "a bit of the essence of the experiment, not its detailed nuts and bolts." (Krieghbaum, 1968, p.39).

When asked about choice of topics by the newspaper or magazine, the editorial role tended to be played down: "I see myself as independent"; (newspaper reporter):

"it's up to individual journalists on the newspaper to decide what they are going to write about - they would have their own interests. There would be some content coming particularly from people who have some kind of editing role." (newspaper reporter)

Tunstall, 1971, reports that his correspondents claimed "75% of stories 'are my idea (or my number one's)'; 15% of stories 'are thought of by both desk and specialist'; 10% of stories 'are the idea of executive (or desk)'." (1971, p.133). Findings which are not contradicted here. As noted above, in one magazine topics are mainly suggested by outsiders. In another magazine the mechanisms for topic selection were made explicit: "The writers come up with a list of proposals - we discuss these with (the editor)... and he says 'I like that' or 'this is a waste of time' and work out a list of priorities which gets adapted according to circumstances. Its a list we gradually get through. At the moment I've got about 60 items on file some of which will never see the light of day." In another magazine "We have an editorial board that sits down and works out what is going to be covered." While editorial input varies in importance, the topics considered appear to be those primarily suggested by the staff writers or outsiders and are likely to reflect both their interests and activities.

But how do staff writers choose/decide on topics? The common theme is to write on new topics: "coming issues" (magazine journalist); to be predictive: "my job is always to be ahead of the game and if I'm not, I'm not doing my job properly. I like to get into things before its apparent they are of great importance." (magazine journalist) Indeed, one respondent said the newspaper wrote about innovations to the point of being 'silly'. But this search for new topics, innovations, also means that "The mass media, which need to be triggered by events before they can supply essential background, too often by-pass the massive, slow movements in society." (Kriegsbam, 1968, p.192). Tunstall states that "News values stress the exceptional" (1971, p.27) yet this view of their activities is somewhat contradicted by the number of articles which, over the years, had appeared in the publications on AWGs;

Management Today	44
Personnel Management	37
The Times	32
International Management	30
Financial Times	23

(For further information on these, see
Chapter Three publications)

Of course, the much greater frequency of newspaper publications means that relatively a great deal less space was devoted to AWGs and that their claims to be innovative rings more true.

To some extent the wish to be predictive illustrates the competition between publications and writers. What the 'opposition' is doing will be noted and will affect, positively and negatively, the articles, approach and stance taken. According to Tunstall "Competition is so deeply embedded in the ideology and occupational language of (British) journalism that 'news' comes to be seen as (a) what the competition is saying, and,

(b) what the competition is not saying, but would if it could."
(1971, p.209). As noted earlier an eye is kept on those outsiders who write in newspapers, trade journals etc. Tunstall underlines the role of other journalists and of news sources: "Because these people not only can expect punishments and rewards but also are the only audience members who provide a regular detailed feedback of comment, the specialist pays more attention to news sources, executives and competitor-colleagues than to the millions of audience members." (Tunstall, 1971, p.251-2).

An important determinant in magazine and newspaper content is audience demand. "We put things through a fairly tough sieve - not just face value, we look at its relevance to people practising in the field..."; (magazine journalist) "we try to give our top management audience what it wants..."; (magazine journalist)

The needs of the audience are not just assumed however. Apart from circulation figures - (which may be a rather slow indicator where annual subscriptions are taken out) readership surveys are undertaken where readers comments and opinions are sought. The most popular type of article, according to such surveys in one magazine at least is of the 'How to..' variety, and, in another, it is information on the activities of companies which is most highly valued.

But 'new' topics and audience demand are very general and while giving broad guidelines, leave specific topic choice to the discretion of the staff writer. When the journalists were asked how they decided on what to write about, their replies were rather similar and reflected the personal and perhaps idiosyncratic nature of their choice to the effect that: "One is tuned in to what's going on" (newspaper reporter) and "you have your feelers out to know what is there". (magazine journalist)

Although none of the respondents made the point, it was implicit in their accounts that the search for news "is not logical, systematic or analytical; on the contrary 'search procedures' in journalism stress talking to people on a non-systematic 'personal' basis; 'experience' and 'intuition' (or 'news sense') are highly valued." (Tunstall, 1971, p.27) Thus, personal choice was another factor in determining topic selection.

That the magazines and newspapers follow others' lead as well as setting the trend is obvious here: "Some get in very early, others will pick it up from you." (magazine journalist) Similarly, that topics are not always new is evident from comments such as "Journalists are a bit like Pavlov's dogs - we will go back to it /a particular topic/ if it catches attention."; (magazine journalist) ideas are picked up because they are "the inescapable issue of the day" (magazine journalist) suggesting substantial and varied coverage of a topic. But a "lot of things will have a one-off life span". (magazine journalist) "What the writer is looking for is something that is going to make the reader sit up, so we stick on the cover the stories which are going to hit hardest - what we call a Sexy Subject - will grab people's interest though there's little practical advice in it." (magazine journalist) However, in one instance it was the interest of the journalist which seemed to be paramount: "I seem to be the only person here who is writing on work groups and that's because I'm new to it." (magazine journalist)

The ideas come from contacts which the journalist has - e.g. within business circles or "I'll keep in contact with people at Henley and will ring people up at MBS, drop in at Insead when I am over there, and when in Europe I tend to drop in on local business schools and find out what's going on." (magazine journalist) Ideas will also come from correspondents - at home and abroad - who send in articles and "even though we might not

use that, we might get an idea from him and follow that up later."

(newspaper reporter) There is apparently a flair:

"It's 90% guts feeling, the rest is extrapolation. You see 2 or 3 unconnected events, take them which on the face of it have nothing to do with each other and ask 'can I draw any conclusion from them. Mainly not, but sometimes there is.'" (magazine journalist)

(This 'guts feeling' was also asserted by some staff of organisations).

Others work differently:

"In a contrary sense I would take leads from others in the field - I probably disagree fundamentally with what other people are saying - that would send me off - it doesn't take much to make me angry." (free-lance journalist)

What constitutes a 'good' idea is probably a rather idiosyncratic interpretation but some of the respondents explained what it meant:

"Something which takes over what has been done before and goes a little bit further and sometimes a lot further." (magazine journalist) That it may also be "an inescapable issue of the day" suggests that a 'good idea' is seldom a radical departure from prevailing practices. In turn this implies the need for the journalist to be able to identify and to 'place' new ideas, within the prevailing climate of opinion. Thus, it appears that the goal of innovation is within strict boundaries, the journalist taking cues from the existing or recently past topics of interest.

Some topics will be avoided, e.g. "anything sounding like a 'puff'..." (magazine journalist) that is, a publicity gimmick for a company. Also "there is a tendency to dwell on the positive rather than the negative aspects of the experience of work changes. A negative story is hard to write, its also on dodgy ground - there is no way you can go back."

(magazine journalist) Also, companies may be reluctant to be written about or named., limiting for one writer the topics covered, who always stipulates that she should be "able to mention the firm by name." (free-lance consultant) One staff writer said "It is very hard to go into a company and get the company to

agree to doing a story. Also the company has an axe to grind of its own." (magazine journalist) A distinction between the general and the specialist journalist was made by Tunstall to the effect that "A feature writer - who may do a political story this week, and an aviation story next week - tends to see himself as more independent of new sources than is a specialist newsgatherer who will need the source again tomorrow." (1971, p.34). Access then may be a very salient factor.

That some journalists feel they have an important role in diffusing ideas was obvious "If you can't convince people in journalism, then you can't get the idea sold." (magazine journalist) On similar lines:

"We write about something, then the conference organising companies - there are many who are desperate to find something to have a conference on which will catch the public eye - or one of the institutes takes it up and thinks 'this will make a good conference thing'." (magazine journalist)

Similar findings were made by Tunstall "In terms of long-term power or influence many correspondents saw themselves as collectively helping to decide what became the major issues and who became the leading individuals, within the field of specialization. It was also believed that ideas initiated by correspondents were later taken up by leading individuals in the field and vice versa." (1971, p.273, (emphasis in original))

Elsewhere, journalists have made the claim "Articles on management, and on its practice in companies, have certainly helped to stimulate what has been called the management revolution, and this revolution has stimulated more journalistic interest still." (R. Heller, 1971, p.12). Others, however, were more sceptical of their impact: "I doubt if they /senior managers/ act immediately on an article." (magazine journalist) That other linkers may be crucial was suggested: "certain ideas catch the academic public and eventually a lot will be produced." (magazine journalist) It is obvious that staff writers on magazines and newspapers

do not enjoy a monopoly. Ideas may as easily be presented by outsiders and although scrutinised by those in the editorial function, it seems that one of the primary goals - that of giving the audience what it wants will help ensure that a range of ideas from a number of sources will be considered. This is not to suggest that all ideas will be equally considered. For instance, it is unlikely that articles advocating the overthrow of capitalism or of managers will appear in the management pages of daily newspapers or in magazines which have audiences with an overwhelming proportion of managers. But that within a given range topics with a new slant will receive consideration.

A very important feature of journalists, which affects the content of publications, was not touched on in the interviews and that is their backgrounds. Johnstone et al. in their book on American journalists noted "we feel it is significant... that journalists are male, emanate from the middle classes of American society, and are disproportionately concentrated within large urban places and in the North East. If it is true, as critics have argued, that our media give disproportionate attention to the affairs of established groups in the society, to events, such as sports, which are of interest primarily to men, and to experiences in the urban environment, then these propensities are entirely consistent with the social and geographic make up of news media personnel. WHO and WHERE the people are who gather and assemble the news, in other words, can significantly influence what is portrayed as newsworthy by the media." (Johnstone, 1976, p.185). So while journalists may or may not tell us what to think, they have a substantial influence on what we think about, and if their backgrounds reflect only a narrow slice of the range of social class, what we think about is likely to reflect the interests and preoccupations of that narrow slice. Similarly, "In order to produce news

which 'will make people talk' journalists use the device of personalization. Thus events which can be presented through personalities are more likely to become news, especially if the audience can be expected to IDENTIFY with the personalities in question." "The personalities presented tend to occupy elite positions in society, because more events can be related to a few elite individuals and widely spread audiences are expected to identify more with elite audiences..." (Tunstall, 1971, p.19)

It is difficult to evaluate the role of publications in diffusion, especially of newspapers and magazines. Certainly there has been what Tega calls an 'information explosion' to the extent that a comparison between the number of journals in Ulrich's in 1965/6 and 1977/8 looks like this:

Management	75	330
Personnel Management	16	48
Accounting	79	110
Marketing/Purchasing	53	301
Advertising/Public Relations	77	177

(Source: Tega, 1978, p.2)

Although there has been an enormous growth in the number of management journals, each is likely to reflect to some extent preoccupations of the others and feed into each other: "mediating journals [e.g. New Society, Transaction - U.S.] prepare a wider audience for reading technical journals, just as the general interest magazines, like Time, with its 'behaviour' section help prepare the way for our kinds of periodicals." (Horowitz & Barker, 1974, p.395). Journalists, as noted earlier, keep an eye on what the competition is doing- they pay attention to the criticisms of their peers - their competitor colleagues; and there is a great deal of informal contact between journalists, where ideas/stories may well

be exchanged (see Horowitz and Barker, 1974, p.400). That direct picking up from other publications takes place is evidenced by a comment by Barker, "The SUNDAY TIMES, the largest selling 'quality' Sunday paper in Britain has a couple of pages called 'Spectrum'. I happen to know that these were, and are, deliberately modelled on New Society." (Horowitz & Barker, 1974, pp.399-400).

In their article, Horowitz and Barker (1974) make an important point which demonstrates that magazines and to some extent newspapers, also cause information to be produced: "We originate social science in that, at New Society, we commission articles; we even commission survey research of our own." (P.398)

Measuring impact by circulation is dubious for two reasons. Periodicals such as New Society estimate their total readership to be somewhere in the region of 175,000 while its circulation figure, per se, is in the 30,000s. Articles may be used as teaching material in schools which again widens impact without affecting circulation. In the same way, articles may be sent round a company or pinned on a notice-board. On the other hand, all those who receive a periodical do not necessarily read it, skimming the contents pages for attention catching topics, or looking at the jobs advertised but reading few articles. Here the importance of the 'sexy subject' presentation becomes apparent.

Resumé: The influence of publications on one another is perhaps the most outstanding aspect brought out in the interviews. Journalists had often served their time in journalism, moving from one newspaper or magazine to another. In this way, the norms of the profession as well as of the various publications are learned. Through this movement there is a learned understanding of how other publications and journalists operate

which will influence the journalist's own activities. The picking up of ideas from other publications; keeping an eye on the competition; following others' lead - all point to a restricted range of topics and the implicit dangers of stepping too far from what is a currently acceptable topic. Topics may be selected by staff and other writers, but they are normally scrutinised by an editor. What the editor(s) likes and dislikes will soon become apparent and the subject matter selected with this in mind. More important perhaps is the way an article is written rather than the topic itself. Here, not only editorial scrutiny has to be passed, but also the scrutiny of the company being written about (with the need to maintain access); and the scrutiny of the managerial - audience. All of which are likely to inhibit the presentation of stories that are polemical or radical. Editors, owners of companies and managers are unlikely to have very different world views - all are likely to want to preserve the state of affairs in which they have attained their success and thus avoid unpalatable and unwelcome change. The sticking to the known formulas, and the returning to the inescapable issues of the day, point to the rather limited menu appearing in publications, and whether this reflects an easy way to obtain copy for journalists or the preferences of the scrutineers is irrelevant. However accomplished, the selection and presentation of topics is limited and the 'newness' of the topics which are selected will be a newness that falls within definite boundaries, reflecting the influences outlined above. The menu, in other words, might change but will not radically depart from the previously accepted and acceptable diet.

The wide and varied contacts of journalists, the numerous activities of free-lance authors, the many sources of articles, would appear to mean that a broad spectrum of topics would be presented. However, it may be the well-known who are commissioned to write an article, the well-known who are written about, and the well-known and safe topics which are chosen and presented while the unknown outsiders find much greater difficulty in achieving publication. No matter if the outsiders tend to be better informed or qualified in management or business matters, they are similarly scrutinised and operate under similar constraints to staff writers, suiting their articles and topics to the publication concerned.

Like everyone else, outsiders are affected by the prevailing climate of opinion and will take up the current issues whether these result from government policy, impending legislation, or current events. Thus it cannot be expected that outsiders are overly innovative in their topic selection or presentation. They too are likely to stick to the known preferences of publications - in type of article, in language, in slant, as well as in topic area. And they too write for the same audience - a managerial audience - not one which is likely to lap up ideas from a wide political spectrum, hence perhaps the limited range of topics found in publications or sections of publications aimed at managers; a point which is given support by the great amount of attention given to AWGs in various publications.

CONSULTANTS

It is unlikely that the role of management consultants in diffusing ideas and practices is as great as that of journalists, they nevertheless do inform people in industry of ideas applicable to experienced problems.

Twenty one of the thirty three linkers spoken to had done some consultancy work:

Commercial consultants - large firms	4
Independent - consultancy one of many activities	2
In-house consultants	1
Research oriented, commercial consultants	2
Government body consultants or part-Government financed	4
Educational establishment based consultants	8

The backgrounds of consultants varied considerably. Among those from educational establishments who gave information on their backgrounds, it was psychology rather than sociology that was the degree subject. Of course, as one educational consultant pointed out "we've got a lot of people who did sociology as a subsidiary subject." Quite a few had degrees in engineering or production. Only the in-house consultant had an industrial sociology background. In only one interview was industrial experience mentioned as a necessary requisite to joining the group - only one person had, or mentioned industrial experience. This is in marked contrast to the consultants in large professional management consultancy firms where it was always stipulated that industrial experience was necessary before joining the company. The three consultancy firms all had qualified social scientists on their staff - "the days of amateurism are past". However, it seems that again these 'social science degrees' most frequently referred to psychology (once to economics) or what the respondents called "behavioural science backgrounds" - thus sociology was not the main

input although it may have been part of the course curriculum of psychology and even economics degrees. While such firms are advertising for social scientists with Ph.Ds, (see The Times - P.A. International Advertisements) this appears to be in response to client demand rather than being initiated by consultancy firms.⁷³ Appleby reports: "The consultant organisations who employed social scientists pointed out that the impetus for their decision to engage in social science came from their clients; that there had been requests for social and behavioural science assignments." (1972, p.117) Perhaps the situation has since changed and such firms are actively seeking to use the social sciences.

There was a huge growth of consultancy in the 60s: "there was a great demand for consultants - and the big ones like us who had the experience, recruited people to help fill this demand and overstretched themselves. Some inexperienced people were recruited - there was a lot of bad consultancy at this time!" (It would be interesting to know the level of expertise required of recruits today) "In the 70s companies no longer had the money - they cut advertising, cut training, cut management consultancy....". And stringency is reflected: "the days of people coming with a general malaise are over now its a technical problem that we're usually called in for." Consultancy follows industry in its booms and slumps - quite a number of management consultancy firms reduced their staff in the early 70s (see Harvey, 1972) - a trend which continues. Now apparently it is fairly common practice where "executives who have retired from the company are being taken on as consultants later by that same company." (free-lance consultant) So there is a lot of competition for any business which is going, some academic consultants becoming aware of being in competition with management consultants. It is easy to paint

an over-gloomy view of the management consultancy climate. There are other clients, such as nationalised industries from which one third of the business of the largest consultancy company originates, (Harvey, 1972), foreign governments and overseas companies.⁷⁴ Contracts from government departments have also been obtained by university departments.. (see Cherns, 1976).

Although management consultancy is dominated by a few large firms there are many individual consultants and small firms. In 1972 "according to the BIM over 50% of consultancy firms employ less than five people." (Blagden, 1973, p.459). Quite a number of consultants leave the large firms - in which there tends to be a high turnover of staff - and set up on their own, but it is difficult to survive, and the struggle to get a contract may be long.

Management consultancy is one of those areas on which people in any way connected with industrial and commercial organisations feel qualified to comment. The poor consultancy of the 60s, the fierce competition of the 70s - where consultants registering with a consultancy service often say "they cover almost all the areas /of expertise/ just to get business" again possibly leading to an inferior service, all add fuel to the fire of criticisms of management consultants.

Much of the time of management consultants - large and small - is spent trying to get business. In the large companies business is developed by 'warming-up', that is "not trying to sell them anything but just letting them know we are here and the services we are offering." and contacts are made in all sorts of ways - attending seminars, personal contacts, even "who you sit next to on the plane - but keeping this contact warm." It is most unusual to get a cold contact, i.e. "an

organisation ringing us up with whom we have not had any contact in the past." Similarly, companies are sent leaflets by the consultancy firms: "our leaflets aren't adverts but public relations - keeping in clients' minds what our resources are." "we hope there will be a coincidence so that the MD or the marketing director sees some of our stuff or has been visited by one of our people when they have a problem that is really hurting at the time."

Getting a foot in the door is less easy for the individual or small firm of consultants: "mailing is quite a good way of getting business. Its a long haul - to get anything you have to send out 1000 letters and you might get half a dozen meetings and then get one job out of that." (independent consultant) It's a long slow haul to becoming established which partly explains why some consultants do other things such as teaching, writing, etc. and why consultants so keenly follow demand rather than initiate it - their position is too precarious to do otherwise. And even if asked for a proposal for a job:

"You may just be asked as a makeweight - to make up the numbers when another firm has virtually been decided upon. You seize that opportunity to get a job. More typically its an opportunity to show your potential - in putting forward a proposal, you might be asked next time, perhaps as a final candidate." (independent consultant)

In a number of ways the large companies enjoy the benefits of scale: of resources of staff, in having their own training centres, in extensive previous experience (and reports from previous engagements which can be easily consulted); in having their own libraries, etc. But the main advantage is having got their foot in the door, because according to Harvey (1972) 75% of Urwick Orr's assignments are carried out on a return business basis. Individuals and small firms who find it hard enough even to be asked to make a proposal do not even have the chance to enjoy 'repeat' work. This striving for business does mean, however,

that firms are inundated with literature offering all manner of cures for all manner of problems, many of which will relate to the behavioural sciences.

For those in educational institutions, the approaches to firms may be less frantic if there are grants or existing university funds available. But, consultancy fees may be an important part in the financing of a department or unit and again the attempts are made to interest business people in their services. While advertising is not done, 'plugs' through being written up can be obtained.⁷⁵ Contacts in industry are again crucial and may be sought for access for post-graduates to carry out research, to publicise courses, as well as to obtain consultancy work. Thus one such person commented that in the business school "All the staff tended to have some contacts in firms around the place." A lecturer in the Department of Management Science at Imperial College writes: "We have a network of contacts with industry. Individual members of staff here are encouraged to go out and make contacts. They meet people who are working in industry. We are all interested in the application of OR techniques." (Jenkins, 1976, p.241). But approaches are made in both directions: personal recommendations are most important according to quite a few of the respondents. One needs "an acceptable face to management"; managers need to "believe your track record and that you are known to be sympathetic to management problems." But "The contact is highly personal." - in order to get known you must already be known! Of course this may merely mean that people have read your work or have heard you speak, so it is not experience in consultancy per se which is necessarily critical. "Some research contracts arise through the attendance of managers at training courses." (Cherns, 1976, p.247). Or by managers attending scientific meetings in order to establish a continuing relationship

with a research centre. Appleby found that "the specific impetus had been attendance at conferences or personal contact with a well-known exponent of the social sciences, resulting in the decision to employ an organisational social scientist." (1972, p.116).

To an extent, consultants from academic bases have advantages over small consultancy firms - they have access to good library resources, to a computer perhaps, to colleagues with other areas of expertise and contacts; and their competitive edge is also strengthened when no consultancy fees as such are charged - only their overheads such as hotel and travel expenses need to be covered. But the relative importance of universities and polytechnics, etc. can be overstressed.

Certainly, no consultants commented on the activities of academic consultants and it must be assumed that their activities are rather marginal. Blagden suggests that "5% of consultancy services emanate from universities and polytechnics." (1973, p.459). The two or three major projects which an academic department or unit may run over a two to three year period would be chicken-feed to a large consultancy firm such as PE Consulting Group which can report that they have worked "for 82 out of the 100 largest British companies, for 16 out of 22 nationalised industries in the U.K. and for more than 30 national governments." (PE Consulting Group Brochure, undated.)

Management consultants' predilection for packages was often noted (Ford & Appleby made similar findings, undated, p.6) and also "whether the package they sell is appropriate or not I think is sometimes problematic.". (Research Unit) However, packages may be offered because that is what clients want: "The client normally has got to have some favourable inclination towards an idea before he will accept it..."; (management

consultant) "Consultants don't sell ideas." (management consultant)

A level of knowledge needs to exist then before consultants are approached, in turn indicating that it is not consultants who initially inform managers.

This conclusion would, however, ignore a number of factors:

1. some consultants are engaged on an open-ended basis, acting as long-term advisers who attend Board meetings - and here the potential for introducing ideas is higher.⁷⁶
2. companies may have a definite problem in mind yet wish to be informed of all the options: "One company have asked us to spend a bit of time sitting down and just thinking about what sort of pay system and kind of work organisation they ought to be working towards for ten years time."; (management consultant) "The great bulk of our work is of the relative bread and butter kind:- pay - productivity problems, immediate problems. But we do get a minority of assignments to do with organisation development and opening up options." (management consultant)
3. Academic consultants are unlikely to apply packages and may well suggest innovatory ideas being less dependent than commercial consultants on 'repeat work' or a successful implementation. Similarly, they may be more aware of new ideas from research given their closer contact with the academic community. (Appleby found consultants only had tenuous links with the academic community. (1972, p.119))
4. There seems to be a continuing high demand for and supply of management consultants with expertise in the social sciences, and: "You will find quite a number of individuals who have a social science background and are applying them commercially."⁷⁷

5. Some consultants themselves - commercial and academic - believe their role is important, management consultants are "a halfway house between academics and practising managers". (management consultant)

Only one respondent however was aware "of one or two management consultants who are doing things in the field of work organisation...."(Tavi.) Their impact in the field, therefore, seems limited and we do not know whether even in the above cases, consultants initiated or reacted to demand.

If consultants do act as diffusers of social science then some evaluation of their use of social science would be informative. That consultants may apply social science badly because "industry doesn't really know what it is getting unless there is a specialist in the organisation" (government body) is an important point. Evaluation of consultants' performance at any time is not easy, and as regard social science ideas where the outcome of implementations is seldom certain, it is virtually impossible. The problems in evaluating social science have been noted elsewhere "It would seem from our investigations that the conviction that social science is useable is almost a zeitgeist. The belief persists despite the difficulty in quantifying or testing it." (Ford & Appleby, undated, p.6).

The lack of comments on this aspect may partly be explained by consultants practice where they "don't talk about the behavioural sciences as such but the concepts are taken from the behavioural sciences so that they are finding their way into industry but I don't think managers would have been conscious that they had been through some behavioural science." The disguised presence of behavioural science to managers may also mean

disguised presence to observers. This 'incorporating' of social science into practices and obscuring its presence was also found to occur in organisations and ITBs, and it obviously has repercussions for the diffusion of social science - positive and negative. Here again it is worth noting that a shift in terminology is made, spontaneously, from social science to behavioural science. Thus consultants are no different in this respect from organisations, ITBs or journalists.

As regard linking activities, although commercial consultants may attend conferences etc. this is more often to make contacts than to give papers. But for various other groups of people who act as consultants: academics, government units and bodies, conferences are only one of the ways in which they pass on information: publications, seminars, courses, radio and t.v. These activities may be more crucial than consultancy to the linking process. The least used medium for these people was radio/t.v. The most often used was publications - books and articles: most regularly gave talks at both seminars and conferences, and were involved in teaching on some kind of course: IPM, DMS, in-company, academic institution. Thus whatever these people are saying, will be transmitted in a number of ways, reaching different audiences, and having different impacts. Many of these activities directly lead to further contacts e.g. "a lot of people contact a writer direct". (free-lance consultant)

Indeed, one (academic consultant) respondent received 200 enquiries resulting from an article he had written. Yet contacts from 50 companies may only result in one research project as happened to one academic consultant.

While industry is not reluctant to contact academics (as was found in brewing), or to approach them with potential consultancy projects many attempts are made to involve and attract industry and its finance to universities, business schools and colleges. Contacts with industry are, after all, only frowned on in certain academic surroundings as one free-lance journalist respondent reminded me. Some have "used the media to promote" themselves. In some organisations there is enough contact to warrant the employment of an Industrial Liaison Officer; others have graduate business centres (Barry et al., 1975), others offer a consultancy services for specific industries (Bakewell, 1967). Similarly a 'brisk and ebullient' business link was reported at one University where local firms had part-financed the setting up of the university. (Eglin, 1977) Links are also fostered by third parties like the SSRC with its Open Door scheme which seeks to bring researchers into contact with management and others. And they advertise that "it is by a long term approach that research can most valuably help management." (SSRC advertisement in Management Today, November, 1979, p.203).

There are a number of government and part-government financed bodies which will offer assistance, including 'research' - a term which obscures the consultancy which takes place.

Academics, consultants or not, are influenced by and have contacts with other linkers. One journalist said "I make contact, I get papers from them, I go to conferences to hear them speak, hear who's getting grants from the SSRC or if they write a book." Consultants seek the assistance of academics "some are particularly good", and "academics have given me quite a lot of my information" while others noted the extensive contacts they had with academics, (an aspect also found in the ITBs) an in-house consultant reporting that "We do keep in touch with

almost every academic institution we can." Yet it can still be asserted that "people distrust academics more than management consultants." and even from within academia, criticisms of academics are made:

"I think academics have done a lot of damage as a group - I don't know if I am any better, I like to think I am because I've been bashed about a bit by industry and I think I know some of the mistakes I've made in the past." (educational consultant)

Academia is seen to play a fairly important role in diffusion: "Being an outsider, a third party, can cut across conventional communication problems in organisations" (educational consultant); "they have a fairly important role to play in disseminating ideas for selections." And it seems as though academics' output is increasingly picked by industry "as people in industry are encountering problems now they used not to have...." (journalist)

In passing, it is worth mentioning the problems which researchers in educational institutions (in one case, attached to a university) had encountered in obtaining grants. Two points were made: "Had to deal with the SSRC - always seemed to encounter hostility because we're not really accepted in social sciences committee so we always run up against people who think we are upstarts. They often tend to be from the Tavi-type background. Intolerant of others who want to work, in what they see as their area, in another way." Another respondent pointed out that because they tended as a group to deal with a multi-disciplinary area, the applications for SSRC funds ended up going to the psychology side, the management side and other sections of the SSRC and each saying 'very interesting but not our sort of thing', and there was no one place where their proposal would be looked at in total. Two points which illustrate why consultancy work may be more eagerly sought rather than research grants. (The screening out of newcomers to an area of research is another possible interpretation of these comments).

Normally, it is not sociology departments but management and business studies departments who will offer or seek consultancy work. The members of these latter departments are unlikely to have 'majored' in sociology although they are likely to have received some input in their degree course from sociology, especially industrial sociology.

While a number of these consultants, especially those from an academic base had been concerned to implement AWGs and changes in work organisation, very few indeed had had contact with industrial sociology as such. On the other hand, most had had some contact with sociology. But it is not sociologists per se who are acting as consultants or linkers here. Nevertheless, there are many academics who do, and have, actively sought links with industry: those whose 'faces fit' and whose 'track record' is acceptable to management. While academics may not be very important linkers in the role of consultants, they play a greater role in the other activities as writers, teachers, etc. than commercial consultants. Again, it is the non-specialist who had greater impact through using a greater number of channels as well as through exposure to a wider range of milieux and audiences.

Resumé: It is easy to exaggerate the linking role which consultants play. While some, especially those from academic bases may 'sell' ideas, on the whole, consultants have to react to demand, they seldom initiate. Consultants' liking for 'package' applications and the many criticisms voiced of consultants' activities means a less than innovatory role. Although there is a high demand for consultants with expertise in the social sciences, consultants have had limited impact in the field of work organisation. But many consultants act as linkers in other ways: as conference speakers, authors, teachers, so whatever they are saying is

transmitted in a number of ways. Academic consultants only account for 5% of consultancy services but they also play a role in diffusion through their other activities e.g. lecturing, writing, as well as being sought out (as information sources) by other consultants. It was also noted that academic consultants come from management and business studies, rather than sociology departments. Again it was found that social science is translated into behavioural science with the further twist that the presence of the latter is disguised by consultants. This means firstly, that any apparent diffusion is obscured, and secondly, that the consultants role in diffusing behavioural science is similarly obscured.

There are a variety of organisations which are in some way involved in the process of diffusion. How important is their presence? How influential are their activities - both in relation to consumers and linkers? Some of these questions will be looked at immediately below, others will be examined in the section covering the brewing interviews.

THE TAVISTOCK

The Institute in Britain which has been most closely involved in the work on AWGs is, the Tavistock Institute of Human Relations. It has been and still is of great importance in the field and undertakes a great deal of consultancy work. However, it is most surprising to discover that there is very limited contact between some university departments who have been working in the field of 'improving jobs' and the Tavistock. For the main part, contact appears to be made through working on projects together - where either the Tavistock or a university department has been called in as third parties/consultants. While some contact was made at seminars and conferences there appears little attempt to keep up with the work of the other. Relying on publications is unrealistic: 1. much of

the Tavistock work is not published, being confined to internal reports.⁷⁸

2. much of the work of the academic researchers is not published due to lack of time, confidentiality: "our reports go first and foremost to the client and they are written for them and in their terms and since funding is always a problem for us, we are rarely in the luxurious position of being able to say 'well, lets sit down and knit the experiences that we have gained from several companies and make that into a respectable paper or whatever..." Contact with the Tavistock seems to be mainly confined to a few from an academic base while with one exception, management consultants and journalists have had very little contact, e.g. "I've never gone there (for information)."

It was appreciated that the Tavistock were "in an almost impossible situation for research - they have to be self-financing (although they get some money from grants) which I think gets in the way of research because those two things aren't easy to marry..." (research unit consultant) And this also helps explain why their diffusion activities are limited. As one Tavistock member pointed out "quite a lot of Tavi people do not do seminars which do not pay - it might be seen as greed, but you have to pay the gas bill..." The point was also made by research unit consultants that "there is no Tavistock approach as such - the Tavistock are only a group of people who happen to be in the same place." Although there was some evidence of special alliances and rifts between members so that the full flow of information may be impeded, there still appears to be considerable contact between members as well as knowledge of their clients and their research.

Between them, the members of the Tavistock have contact with many of the largest organisations in the U.K.: nationalised industries as well as companies like Philips, Unilever, Shell International, ICI, BL, Kodak, BAT,

Imperial Group, Plessey.⁷⁹ And it would be easy to underestimate their impact and influence. Any influence is perhaps more directed at industry and commerce than at academics and others in the field of work organisation, and as a result, less apparent to academic observers. It may be also that diffusion occurs via industry, not academic consultants or researchers in the field.

According to one member of the Tavistock "Of the 33/4 staff, perhaps four are centrally concerned with job design stuff from the socio-technical angle, a couple more from a power sharing angle - less into technology, and some others depending on whatever turns up, who might do something on job design if it arises." Only one Tavistock person was mentioned by other respondents in connection with AWGs and work organisation. It appears this person had a crucial position vis a vis the Tavistock and diffusion of AWGs also being one of the most frequently recommended contacts in the field. It is interesting to note, however, that two ITBs mentioned the Tavistock with enthusiasm perhaps reflecting an aspect of the Tavistock - its emphasis on the learning process which has often been stressed.

THE WORK RESEARCH UNIT

Another, more recently formed, organisation which has been much concerned with AWGs is the Work Research Unit. Founded in 1974 in part as a result of a paper by N.A.B. Wilson on "The Quality of Working Life" its overall objective is "the stimulation of changes in the way in which work is organised in industry and commerce."⁸⁰ Put under the auspices of the Department of Employment, this was wrong - at least according to four respondents. It was very much "a political institution" (research unit consultant) and "the government base was a mistake", (in-house consultant) leaving the Unit "rootless".

Another respondent felt that there was a lack of commitment from the Department of Employment. Thus as one ex-member of the WRU put it "The role was super and the idea was super but the base was wrong totally wrong."⁸¹ Most respondents were critical of the WRU in some respect: it was "too small and spread too thin" (in-house consultant); it had "too much to do" (academic); there was a problem of credibility: "some people who were transferred into the WRU had never been inside a factory in their life", (educational consultant) and "it was set up in too much of a hurry, people were expected to produce instant results... and everyone was put under pressure to achieve." (educational consultant); "it really needed a brave maverick at the head of it who didn't care too much what happened to himself, and poor (.....) was not that sort of person." (academic); "its lagged behind. Got into job satisfaction - a silly concept if there ever was one." (Tavistock); and finally, "the WRUs biggest achievement is to have survived three elections - it's not done anything else - but that in itself is valuable." (Tavistock member) But the most frequently voiced comment referred to its lack of impact - indeed this view was shared by people in government departments, the Tavistock, consultants, ex-members and academics. Yet this criticism was sometimes qualified in two ways: 1. that similar organisations in Europe and North America has "not been more successful" (journalist, educational consultant), and 2. while doing consultancy work might have been a mistake, on the information side the WRU "had done a good job." (in-house consultant) In fact a fair number of respondents found its information services useful. To a large extent, the possibility of contact with the WRU has diminished as the number of advisers has dwindled. Indeed, out of a projected number of sixteen, there were in late 1979 only three advisers. Thus it is not surprising that a few respondents said they used to contact this or that person, who has since left.

However, not all comments were critical, e.g. one academic said the WRU "did supply money which was helpful for some people, and some use it was to Henley and Mary Weir - of all things, it was probably the most useful thing it had done."

Nevertheless, the overall impression of the WRU is unfavourable. Members of the Unit themselves are well aware of this and of their lack of impact: "Wherever we go people say 'haven't heard of you'..." yet, they receive somewhere between 200 and 300 enquiries per week for both advice and information. They have a mailing list of 2,000 people (as at the end of 1979) which was made up of 976 managers and trade union officials (the vast majority being personnel managers); 872 academics and a few individuals, and 51 people who work for ITBs. Given that one must ask to be put on the mailing list to receive their range of publications (mainly abstracts and bibliographies) its impact may not be that limited. Certainly the Unit's conferences have involved a wide range of bodies including: ACAS, BIM, BSALS, Brunel, Civil Service College, Ergonomics Society, IPM, ISM, IWM, ITO, NATFHE, Management Centres, ILGS, Royal Aeronautical Society, OD Network, most ITBs, ICI.... It is worth noting here that only a few of these bodies (and none of the ITBs) recommended that the WRU be contacted in connection with my research and also that few answered positively to my enquiries regarding AWGs and industrial sociology again suggesting a lack of impact of the WRU.

It is not easy to explain the WRU's lack of impact: it may be because its services are free or government-based, or that it is distrusted by management and trade unions. It seems to reach the organisations which inform managers such as ITBs yet there seems little diffusion from that source. Indeed, it could easily be suspected that such organisations act as a barrier between the WRU and industry, in that individuals in the

organisations have to be convinced or at least won over before any passing on of information takes place. In other words, such organisations might occupy a gatekeeping role between the WRU and industry if they are the only channel of communication between the two.

Again it is interesting that of the organisations with which the WRU and the Tavistock had in some way been involved (according to the annual reports) 33 and 17 respectively - there were only three organisations mentioned by both: the BPS, IPM, ICQWL. Thus the WRU and the Tavistock seem to reach different audiences in their activities. Both the Tavistock and the WRU are in positions distinct from that of other linkers: one having a research orientation yet seeking to remain financially stable, and the other offering a free service from a government-base. Both do not appear to have had an outstanding impact on diffusion, yet, as will be seen later, association with either of these bodies is a common factor in the best known figures of the field. These comments may now be out of date. In late 1979 a new director of the WRU was appointed and accordingly, the orientation of the Unit has changed, there being much less emphasis on research and a greater stress on 'selling' the ideas behind the QWL movement.

THE INDUSTRIAL TRAINING BOARDS

Although the WRU had contacts with 'most' of the ITBs, the Tavistock appeared to have none (although two ITBs mentioned the Tavistock). From the interviews with linkers no clear picture of the importance of the ITBs emerged and it is hard to evaluate their impact. For instance, one academic consultant said about publications on work groups: "the ITBs would be the wrong network in which this ought to be published. It is not the training man who changes the organisation.... it is not where the

initiative comes from." Potentially of course the ITBs are an excellent mechanism for diffusion: "When I talked to people in Europe and they heard there were these bodies where managers and trade unions united to get together on training, they said why not use this for changes." (freelance journalist) And the ITBs are approached for information: "many people in training boards have been asked about job redesign and training people for it They recognise the demand and want to respond to it." (academic consultant)

Yet there was not always much contact between the organisations/individuals who had been introducing work groups and the ITB for that industry, e.g. "There's no direct contact, I think they know what is going on." (academic consultant) Of course much depends on the Board concerned "some Boards are weaker than others, some more and others less able, and some are not at all interested in work organisation." (research unit respondent) Only one ITB was described as 'innovative' in its approach though it had not undertaken any work in the area of AWGs. Another ITB which had appointed an adviser with a primary responsibility to look at work groups evoked mixed comments: especially from academic consultants. "I'm sceptical of the work being done", but they "have done a lot more than others." (education consultant) But the lack of contact between ITBs, their curious lack of reference to the WRU noted earlier point to the difficulty in evaluating their role in the diffusion process. Overall, opinion varies about the ITBs and their role - actual and potential. Although the ITBs are not in the centre of any diffusion attempts their influence cannot be discounted especially in specific industries and in giving a potential lead to other ITBs.

LINKERS CONTACTS

Taking all the linkers together we find that a surprising number of mentions were made of organisations. Two organisations were mentioned by the interviewer: the WRU and the Industrial Society - the latter evoking fairly critical responses. Otherwise the IPM and BIM were often mentioned in passing - their activities and existence being taken for granted. Two other organisations were fairly frequently mentioned: the ICQWL and the BPS both being positively evaluated and the important role of the former in diffusion was particularly emphasised. While it was the in-house consultant who mentioned most organisations, in general it was the respondents from an academic base who most often mentioned organisations and their role while the commercial consultants and journalists mentioned fewest. There was a fairly constant, but not high, mention of educational establishments in the field: Administrative staff College 7; Brunel 4, MBS, Cranfield, Bradford and Ashridge 3 each, and a number of similar institutions received occasional mentions: Lancaster, London Graduate School of Business Studies, Oxford Management Centre. Quite a number of European contacts were also mentioned indicating the influence of events abroad.

PERSONAL CONTACTS

The naming of people in the field relating to AWGs and work organisation in general seemed to be a favourite topic for many linkers. Whether this was to show the centrality of the interviewee to the field or the importance of personal contacts is debateable. In the course of the conversations, 45 non-academic and 156 academic names were mentioned. Commercial consultants were mentioned by 7 people as contacts worth following up (surprising given the dearth of knowledge about consultants'

implementation of AWGs). Similarly a number of industrial organisations such as Shell, Esso, ICI, S and N, Plessey, Philips were mentioned for their activities and interest in the field. Some who would be called industrial sociologists were mentioned: Fox, Flanders, the late Joan Woodward, Lupton, Wedderburn, Cherns, Shimmin, Daniels, Colin Brown while there were a number mentioned from academia who would occupy ground nearer management studies such as: Gowler, Legge, R. Stewart, Mumford, Pugh, Pym.

A few names did keep recurring: Ray Wild and David Birchall of the Administrative Staff College, Lisl Klein of the Tavistock and less frequently, Margaret Butteriss of Shell U.K., Mary Weir of Glasgow University, Jenny Blake - free-lance, Lynda King Taylor - free-lance. All these people - noticeably so many women - had been and some still were actively concerned with the concept of AWGs. All had actively attempted to act as diffusers - although the amount published varied (Wild 26, Birchall 15, L. King Taylor 10, Butteriss 7, Klein 4, Weir 2, Blake 2), while some appeared to have concentrated on conferences, consultancy and seminars. Books do not appear to be very important in their activities, only two having produced more than one book.

Quite a few of these 7 people had worked on projects together and many had made contacts through various conferences and seminars in Britain and Europe. There is a common denominator for 6 of these people, L. King Taylor being the exception - an association past or present with the WRU or the Tavistock. (King Taylor was certainly not a central figure in this small group, her activities and presence were recognised but seldom favourably). This points to a more important role in diffusion for the WRU and the Tavistock than has been shown so far. However, it is obviously the individuals rather than any institutional attachment which

is remembered and it is through the activities of individuals not the institutions that they become well-known. This is an important point with regard to diffusion, the linker being the individual rather than the organisation, although association with an organisation may give greater credibility to an individual. The alacrity in mentioning individuals gives further support to the suggestion that a personalisation and perhaps anti-bureaucratic process is being fostered. This would accord with an Invisible College view of the coterie of 6 or 7 who had been identified as important, if not central, figures in the field of AWGs and work organisation. The personalising of contacts also shows why organisations such as ITBs and the WRU do not seem to have made a great impact. It is their members, or ex-members who have been contacted and remembered, rather than the organisation. But the link with the WRU and the Tavistock is identifiable and therefore perhaps important.

The existence of the small circle of people who know and have worked with others in the circle; who meet and hear each other speak, is interesting. It would be intriguing to know if this occurs in other fields.

THE APPROACH

(The Linking Initiative)

The linkers were asked whether they approach or are approached to write, speak etc. Two findings emerged. For conferences, papers are offered while for seminars and talks, individuals are approached. For research, predictably, people both approach and are approached. In the latter case, individuals are asked to participate as advisers, associate consultants as well as evaluators. As regards publications, articles are normally offered - only one respondent said she was always approached, but

individuals are often approached to write and/or edit books. While some respondents had written books which they then tried (always successfully) to have published, normally it is the publishers who made the moves. Unfortunately, no publishers were interviewed - it was not apparent initially that they had any large contribution to make in diffusion given the time lag which often exists between a book being written and published and, secondly, that articles far outweigh books numerically. Nevertheless, their activities are of interest and only limited information on these can be gleaned from the interviews.

Although a number of people had had more than one book produced by the same publisher, they also asserted they had no special relationships with any publisher, indeed, they would even try to avoid them. One respondent (academic consultant) had found a specific publisher too slow in producing a book and would not use them again, while another (academic consultant) reported that the publisher who had produced two of his books refused to accept the most recent one. There was no publishing company mentioned by more than one respondent. Only one respondent volunteered why publishers suggest topics, and he said that publishers felt "there was a hole in the market" (research unit consultant) but this somewhat begs the question, how and why is a 'hole' identified and from whom do publishers take the lead?

In asking why the respondents themselves were approached, the most frequent response was 'personal recommendation', while their writing was the second most mentioned reason. A "reputation is transferred verbally" according to one academic. A consultant pointed out that a network of contacts existed through which approaches were made. Contacts are important in meeting new people and in keeping up with old contacts. Four respondents mentioned people in the field in the U.K. they had met at a recent NATO

conference. The 'conference circuit' was mentioned and it seems to be one of the main ways in which contact is established and maintained. Thus one academic consultant stated: "I've got contacts in the U.K., U.S. and Europe. I meet them.... in the summer at the NATO conference, the year before in Paris at the ICQWL, the year before that in Sweden, Brussels at the European Institute of Advanced Studies of Management for a couple of years." There seem to be two conference circuits in the U.K., the commercial and the academic. The former is certainly "booming despite the recession" as one consultant put it. And commercial conferences are used by linkers: "conferences are the main way in which we inform people about our research activities." A number of conferences are often mentioned, e.g. the IPM and BIM, with other bodies such as the ATM and BPS being less frequently mentioned.

Contacts of a different kind are made at academic conferences - here the aim seems to be to keep in touch with what is happening and who is working in the field. The academic circuit in the field of work organisation seems to encompass Europe, indeed most of the major conferences appear to be held in continental Europe rather than in Britain. Some bodies such as the ICQWL which was referred to by one person as "a loose network of old stars" not only looks at the field of work organisation but seeks to foster international contact between researchers and practitioners. Similarly there are organisations such as the OD Network which fosters contacts within Britain, the ATM relying on a similar style of operation. Of course, research activities themselves foster close contacts between individuals and there is some evidence of a small group of people who have a number of contacts through their research as well as their conference activities. Of course, one may reinforce the other. It is at these conferences that information about ongoing

research and activities will be exchanged and perhaps the unpublished and recent rather than the old and known discussed, so that it may be a very important element in keeping up in the field. The contacts or network which exist are fostered in other ways: in having attended or worked in institutions at the same time, in working together, on joint projects/programmes in the activities or membership of organisations such as the IPM or ICQWL, e.g. "people tend to be busy in things like the BPS - Occupational Psychology section." (academic)

A number of respondents commented on how they stayed informed: four mentioned reading, three conferences, 3 contacts and two an organisation. It was the academic-based who mentioned reading whilst the journalists and consultants put greater stress on contacts and conferences. Overall, the impression is gained that the linkers were well informed about activities in the field of work organisation although in individual instances this may have been restricted to specific areas such as one type of industry, type of approach, etc. and this may also be the case in ITBs and organisations. Knowing who's who in the field appears to be important and personal contact with leading figures highly valued. This reflects most clearly the role of the linker - the person who seeks to find out and to pass on knowledge and practices. Personal knowledge influenced the approaches made to linkers for further linking activities to be offered. While this finding is not surprising, it does suggest something similar to an 'invisible college' exists where those who have been working in their field for some time enjoy an enviable position of being sought-after to write, speak, teach, etc. and as a result remain able to maintain their position as well as being better informed.

In this respect, one point, stressed as important by a number of respondents is the role of networks in industry: Networks of people with whom one is in touch and through which information is exchanged. The findings from a survey carried out in France which a respondent cited were that "geographic location appears to be important for copying /new forms of work organisation/ as does the adherence of the chief executive to one or two networks (in particular the 'Jeunes Patrons' movement or the C.F.P.G. enlightened catholic philosophy." (Piotet, 1975, p.3). However, as regard the U.K., an academic, much interested in diffusion, commented that there is "a very limited interested network /in the QWL/ within industry." Informal chats are recognised as more important than formal input in diffusing information to managers. It seems then that although there may be only a small number of people specifically interested in changes in work organisation it is through networks and peer influence that any impact on linkers and consumers will be made.

Among the academics and the research oriented consultants there are also networks through which the interested keep up with new ideas and developments in the field. There are a number of networks. The conference circuits - academic and commercial - mentioned earlier. The specific networks concerned with particular areas such as the Group Relations Network on the job design front, the OD Network concerned with organisational development through which people interested in the area are put in touch with one another; the networks through which the ATM operates, the Futures Network, etc. etc. There are also the informal networks through which people hear of others in the field - in other words, the 'grapevine', and networks through which consultants in the field are approached to carry out projects: "In a career you make a network which

is a mutual testing out and when you get older the people in the network get into influential positions where, if they respect your work, get into a position when they can use you. Militates against the younger of course. It's a network and institutionalisation." To discover who is in the network "you have to find out who works with whom" or who has done in the past. A remark which supports the finding regarding the group of seven mentioned above. For those academic consultants who do not advertise their services, their clients "usually find out about us through networks"; elsewhere credibility can be established if "they know of us through the grapevine". Thus academics may be approached although "it may not be someone who actually heard you speak.... but someone who had heard from the person who heard you speak ... and then by reputation which is transferred verbally." Of course, these networks relate to areas which are not restricted to AWGs alone but will include job design, organisation development etc. It is in respect of AWGs that the group of 7 was identified but they may be variously represented or participate in other networks.

Networks then exist at two levels: networks of managers who might discuss ideas such as AWGs, and whom it appears exercise quite a degree of influence and, networks of academics and research oriented consultants who keep themselves up to date with who is doing what, the names of firms peers are working for, etc. as well as conveying reputations. Membership of various networks and circuits will overlap so that some of the people who belong to the OD Network, will also belong to the ATM or BPS or be in contact at a conference with a member of the Group Relations Network. What is remarkable, however, is that despite a number of people stressing the importance of networks and the grapevine, people working in the areas were not necessarily known to each other - this was particularly noticeable regarding relative newcomers who had been implementing changes in

work organisation: This was the case, for example, with a research unit which had been conducting a range of research into the organisation of work, including AWGs, but which remained unmentioned by the prominent figures in the field. This gives some support to the Invisible College idea in the field of AWGs - particularly of those who had for a number of years been working in the field. It is bodies like the ICQWL, that 'loose network of old stars' which epitomises this invisible college, through which the 'tried and tested' old hands maintain their links, at the same time, ignoring or excluding others, whether they be ITB advisers, management consultants or young academics, who are trying to introduce AWGs. The latter's potential to diffuse and become 'a star' is thereby limited. Of course, this argument only holds regarding aspirants within the field of AWGs. Newcomers purveying new ideas or not-too-recognisable variations on old themes may be able to bypass 'the old hands' and in so doing hasten their downfall as the newcomers gain the advantage for the time being. Of course, the links between and importance of all the individuals varies: quite noticeably geographical location plays a part so that for instance, people in the Midlands had strong contacts with one another - yet much less contact with those in the South East. Even ties between people who had worked in or with the WRU and the Tavistock appeared to be weakened by geographical distance. Yet, at another level, international conferences seemed to bring together a variety of people and contact made at these was most frequently stressed.

Face-to-face, informal contact was obviously one of the most important aspects of diffusion - for potential users as well as the linkers themselves - and although other aspects such as publications, consultants, etc. may play an extensive role, it is the reality of talking to people, rather than attending to theoretical articles or

disinterested third parties, which is crucial. A finding which has recurred, not only regards linkers such as ITBs, but with managers in the brewing industry as well.

IMPACT OF LINKERS

If, as was suggested earlier, conferences are one of the main ways in which contacts with peers and colleagues are maintained, seminars and courses are the way of reaching the less informed. Although there is some overlap, conferences imply information exchange; whereas seminars and courses imply some process of learning by participants. Two striking differences between courses and seminars ought to be noted: courses are longer and attendance is not necessarily voluntary or as enthusiastic as at seminars, if, for instance, they are a part of a larger programme and attendance is compulsory.

Seminars and courses also vary in the numbers attending affecting their impact. Thus the size of audience can vary between 10 and 400 for a short course on job design and a major conference on industrial relations, so this aspect should not be forgotten. Indeed, on two seminars which the IPM organised on job redesign there were a total of 20 participants, which puts the topic into perspective vis-a-vis industrial relations - at least for those in the personnel profession.

The impact of seminars and courses will also depend on the organisation running them and the topics which it favours. Thus, some organisations may go for the 'flavour of the year' or "peddle very, very simple packages like ACL, Briefing Groups" or be known to be interested in participation: "having been scared by Bullock" (free-lance journalist); or aim to meet popular demand "they have a talent for knowing the information that people

want." (free-lance consultant) (It is worth noting that 'packages' as such were not mentioned by the organisations themselves, and having been approached before linkers, no information is available here on them).

There was quite a range of opinion among the respondents about the impact of seminars and courses. 1. they might not reach the right people "Those who go on courses are not yet in a position to make major decisions outside their prescribed roles", (academic consultant) and, "in engineering, the more crucial the position of a manager, the less chance of his attending a course " (academic consultant). 2. Even if people attend, they may not be able to use it: "one suspects that a gap may exist between learning and action simply because of the organisational constraints that surround any individual wishing to implement change." (research unit consultant) "People tend to come back from courses with tools they cannot use." (commercial consultant) 3. It may not be the content itself which is important: "diffusion is through seminars rather than publications - there is quite a lot of word of mouth, not via presentations..... but talking informally." (journalist) 4. It might be the tried and tested courses, rather than the innovative which are used: "there is a tendency for people in organisations to approve courses which train someone in their own image, thus increasing their power basis - and the person who was trained approved and this enhanced his own promotion prospects." (business school consultant) 5. Courses are not unlike holidays - very vivid at the time but the details of which are soon forgotten and only a few aspects being clearly remembered. 6. Even if it is argued that managers on returning to the company are more alert and responsive to articles on social science, it remains the case that "managers read very little." (free-lance consultant)

It seems that the impact of seminars and courses is questionable. Any social science component may have a great deal less impact, not only if there is an antipathy to its terms and jargon but simply due to the amount while one academic respondent can state: "anything they (business schools) do has a big element of social science these days it is part of the curriculum of more and more people..." - that 'big element' may be large relative to previous input but not to other topics. "most of the people passing through (the business school) would be on short courses of one or two weeks and behavioural sciences would be perhaps given on one day out of ten - not very much." (business school consultant)

So even though one can confidently state that most courses contain something relating to the behavioural sciences, the input may be very small indeed, as well as sitting uncomfortably with the techniques and hard data of the rest of the course. Perhaps the most that can be said is: "Without management development there is very little chance of AWGs being used. With management development it is by no means certain but at least the climate might be more responsive." (research unit consultant)

SOCIAL SCIENCE

The perception of social sciences and sociology is closely bound up with attitudes towards academics. And if the general attitude to academics is anywhere near that found in the brewing industry, then the outlook for an enthusiastic reception to social science is not good. Nevertheless, 'high status contacts' in the academic world were valued by people in industry according to two respondents: "Going into industry as a professor, there is no doubt exaggerated respect, quite alarming..." Although academics may be disliked in general, specific contacts are acceptable: "because you see, 'he's different', 'quite a decent chap'..."

The linkers were asked about managers' response and reaction to the social sciences. The most frequent reaction it seems is antagonism: there is the

"fear that social science is creeping socialism. There is real contempt for what some sociologists say, what they write and their language, and the fear of interference of non-caring academics in the processes of industrial relations and the management of the organisation." (journalist)

"People are very much against sociology or any other - ogy. There's a difference between academic and business - the more unquantifiable, the less acceptable; people distrust academics more than management consultants" (free-lance consultant) "Managers 'switch off' on courses if social science is mentioned." Much of the antagonism is a reaction to the overselling of social and behavioural science in the past: "The social sciences were going to solve all problems - in practice, it didn't happen and the outcome was disappointment and distrust." (research unit consultant) There is "disillusionment because the recipes of some of the social sciencesalesman have not paid off..." (journalist) But it seems there is a level of awareness about behavioural sciences "Most see that they have a lot to offer us, but need to be seen as part of something we can use, not a cure all." (free-lance consultant) That the presence of social science is disguised by linkers: ITBs, organisations, consultants is not, therefore, surprising.

Of course, the process of translation has its costs and also affects the perception of academics (see above):

"The concepts used in social science research are bowdlerized and popularised, and lose a lot of the complexity or the precision with which social scientists used them. This tends to be forgotten when people read about what social scientists are saying about people at work. So their view of the social sciences is not very good because they see experience as being much more complex than these simplified versions put out in translations." (government body)

Only two respondents felt that managers were interested in the behavioural sciences e.g. "managers want to know what makes people tick and want to know how to make them tick as managers wanted.". (Academic consultant).

Once more, there is a synonymous use of the phrases social science and behavioural science. It is a practice which compounds the problems of looking at diffusion. Some respondents might carefully make mental distinctions between the two and for the interviewer to assume otherwise would produce misleading information. Other respondents may not differentiate between the two phrases, thus giving a less clear/sharp view of the diffusion process. Similarly, the antagonism evoked by one phrase might be carried over when another, not normally unpalatable, phrase was used. These problems emerged particularly in the brewing interviews.

To many respondents, the impact of the social and behavioural sciences has been minimal or merely superficial. A consultant commented:

"Its not going beyond the level of being able to quote Maslow, Herzberg, etc. It has made some impression on how they talk but not on how they actually do things, and if you go deeper than the populists I would guess not a great deal of impression has been made outside the big companies who have the resources, and even there I think there is quite a gap between the back room people who talk about it and the people at the top. There is a big gap between top level personnel people and the line production management who are very much the old school type."
(management consultant)

"I think that they - they being sort of industry at large, will accept the basic motivation patterns and theory, but just as a backcloth, and then they ignore that and go on to..."; "some have all the words".
(research unit consultant)

A not very coherent picture emerges from these various comments. Certainly, there is some interest in social science but it is very limited. The antagonisms and fears regarding the human sciences are compounded by (or perhaps just blamed on) the jargon. There is no a priori reason why

technical jargon or the language of economics is more acceptable than the terminology of, say, industrial sociology. As Havemann remarked: "for some reason, journalism condemns as jargon a vocabulary of the behavioural sciences which is surely not very much more specialized and complex, if at all, than other vocabularies which journalism has enthusiastically adopted and helped to popularize." (Havemann, 1966, p.13). The distrust of academics in general; the overselling of the social sciences in the 50s and 60s means that the presence of social science needs to be disguised. Similarly, the translation into simple terms of complex concepts means further disillusionment with it. And even where some interest exists, it is apparently fairly marginal to the activities of organisations. There are, however, external factors which may influence the use or interest in the social sciences. For instance: (academic consultant) "the industrial relations climate is most important regarding the use of social science". The importance of legislation was mentioned twice:

"it depends on government legislation very much - even though it didn't come off, participation or the threat of participation legislation had an enormous impact - even around here! Yes, it did, so I think external forces are very important as to what is picked up."(in-house consultant)

Similarly, "I think the EEC has had more impact than we realise". On the other hand, other companies may influence: Imitation of other companies occurs

"If the company seems to be doing extremely well on a profit basis or on a growth basis, then its rivals will start looking at what it's doing..."

"if the company is a glamour company people will seek to copy its techniques whether valid or not. If it's a company with a bad image, then nobody will copy it even if it's a brilliant practice." (journalist)

Even the attitude of the public to managers and business and their responding defensiveness may be important in adopting socially acceptable projects.

BRITISH INDUSTRY AND MANAGEMENT

The linkers comments about British industry and its management show the linkers views of their audience. Similarly the linkers' comments on the level of interest in, and impact of, social and behavioural science in the U.K. demonstrate the linkers' interpretation of the demands of their audiences to which the linkers attempt to respond. That British management and industry are conservative and slow to change was repeatedly mentioned, and compared to European and American management it is poor. British management is 'anti-intellectual'; 'phlegmatic'; 'under threat' and 'defensive'. "I think middle managers in this country are highly insecure - poor quality and some of them know it, and they're underpaid for what they don't do - a lot of companies in this country are over-manned." (free-lance consultant) As King Taylor pointed out in an article in IBM Management Topics "Not for the British any heroic businessmen who have shaped the country's destiny as in American Folklore It is unlikely that the picture of a successful U.K. executive will ever grace the front of a T-shirt." (1979, p.20).

The persistence of a belief in the concept of a general manager was pointed out: "Companies tend to move managers around before they become specialists. And if managers aren't moved in the company, they're not going anywhere." (academic) And the notion of managerial omnipotence was mentioned: "it seems to be a very British style that managers believe they are expected to know all the answers." (academic consultant). Similarly, it was pointed out in relation to AWGs that "management are concerned with control - they are very aware of it and don't want to lose it. Delegation is seen as giving someone something to do, no more." (academic consultant)

As regards training, then it seems that "the idea of managers being trained is still fairly new and there's scepticism of the benefits of training." (free-lance journalist)

"there is not the passion for developing new skills, new technology - at any level, even among managers - say at the shop floor level in gaining new skills, that is very quickly damped down and eliminated - the opportunities are just not given..." (academic consultant)

Thus the lack of impact of ITBs on linkers is not surprising, given that linkers are likely to reflect the attitudes of their audience.

The picture of British management which emerges is not altogether flattering: conservative, defensive and anti-intellectual with the belief implicit that managers are born, not made, and that their job is to manage. Amazingly there were no positive comments made about British managers though one or two commented sympathetically on the dilemmas and problems which managers face.^{81A}

A number of comments on one aspect of managers' activities - reading - were made. Quite a number of respondents pointed out that managers don't read much, mainly because they don't have the time. The results of which were outlined by one academic consultant:

"they have such shallow knowledge - they can acquire that in a quarter of an hour a day - it wouldn't take you long to skim a magazine and get the idea that work groups are the thing and I think that's their problem, I think that's where the knowledge starts and finishes and they never think in detailed organisational terms about the mechanics of how one would do these things and some of the potential problems."
(in-house consultant)

Which helps explain why a journalist could assert that managers "pay lip service to fashions, to buzz words, but I don't think they really have any impact on the way managers conduct their business." One academic consultant reported that he had found when a document had been circulated among a number of managers that "they only had a hazy idea what was said in the

document, yet they were prepared to discuss it at great length - informally or in a meeting." That managers do spend a great deal of their time with other people was reported by Stewart "informal discussions took nearly half the managers' time" (1967, p.44) and Carlson found (cited by Stewart, 1967, p.13) for instance, that "managing directors were rarely alone. Even when they were, it was usually for periods that were too short for sustained thinking." And she also found that on average managers spent 2% of their time "on reading external material for work purposes." (1967, p.38) (In a work week of 43-44 hours this means less than half an hour per week.) But the suggestion is that ideas such as work groups will receive much greater attention if they are talked about within a company than if presented in written form by outside sources. This finding is given support from research carried out in France which one respondent cited: "Peer influence is seen as being more impactful than preaching or promotion on the same area with the same content from 'experts' or 'just outsiders'." (Piotet, 1975, p.1)

One other aspect of management behaviour which is worth reporting is the ambiguity in management perceptions of the workforce which three respondents commented upon. "For example, people put in some sort of scheme to increase worker responsibility and leave time-clocks in at the same time! Quite contradictory!". (journalist) There is a "basic ambiguity in management perceptions - there is interest in motivation theories, e.g. how to make men work harder and yet at the same time a belief in the view that men work for money and that they need discipline." (Research unit) This point might explain why managers know about AWGs and yet so few implementations occur.

How do managers become informed about social science? Courses and seminars have a questionable impact and given the apparent antagonism of British managers to social science, no great claims can be made for a strong impact. While external factors such as legislation may affect the reception of ideas, the general picture of British management as being conservative; anti-intellectual and pragmatic would counter such factors. That managers read so little, preferring to discuss things suggests that many of the linker's activities go virtually unnoticed. And the suspicion arises that the 'information explosion' in publications and information services to managers serves few but the linkers' and their financial well being. If there is a preference for discussing ideas then it may be that courses, seminars, conferences etc. - anywhere where there is an opportunity to talk, to exchange information with peers - are important although not necessarily for the formal programme.

WITHIN THE COMPANY

The respondents were asked if there were crucial people in the organisation for the take-up and use of ideas. The majority identified the top level executives and managers as being crucial but there was no distinction made between having an idea, and pursuing it. However, an academic pointed out:

"there are two sides to it: someone at the top has an idea, or someone directs an idea to the man at the top. So the top man argument is a little bit deceptive, people play with his name in order to get listened to, to add weight ... It's a power strategy to quote names."

But there is a two-way influence as well: "If the top guy is putting forward an idea then promotion minded people will seize on the idea that he is putting forward." (journalist) And the importance of the top man can be exaggerated: "needs identified by the chairman and board of

directors may be seen by middle management as something very much against their interests and there may well be... passive resistance." (management consultant) Nevertheless, if the idea did not originate with those at the top, for it to succeed, it must have their commitment: "really you need the top people to at least support it, even if they don't actually know what its about." (in-house consultant) But other comments regarding the origin of ideas were made.

Within the company, ideas are suggested to be taken up either because "someone wants to make their name in the company and wants to increase their chances of promotion" or "someone will see something in a book and will say to Joe Bloggs 'you've been complaining about that for months' - what about this?" The place in the departmental hierarchy of power may affect the take-up of ideas and practices:

"very seldom is the personnel function high in the power hierarchy - it occasionally is, but normally it needs permission from someone like the Chief Executive to go ahead with the introduction of a new theory, whereas production is in a stronger position and is more likely to merely inform the Chief Executive of what it is doing."
(academic consultant)

Those in the personnel function do not have a monopoly of behavioural science knowledge, although "they are the most likely to have some knowledge of the behavioural sciences." (academic consultant) Indeed, according to a journalist "personnel managers are not interested in job enrichment at all - they will always trot out the story of Volvo and how it failed - and trot it out with glee." (free-lance journalist) Most management courses now have some behavioural science component. Also "what might influence people's ideas about what the job ought to be like will not be based so much on information they go to personnel for but more unconsciously what they have got out of what they have read on the view of people at work." (Research Unit) In any case, personnel may not be the function

that is approached:

"When something is seen as a productivity problem you don't go to the personnel side for a cure. Productivity is the province of line managers, of industrial engineering. You call in personnel when you want to restructure payment systems, and call in industrial engineers when you want to design improved work." (educational consultant)

However, one respondent did report "the production engineer comes because he has been told to by the personnel director." (Tavistock) Quite a few people noted the import of reaching engineers "it's not teaching engineers a bit about how people tick, it's getting them to look at the systems they design and the roles in those systems." (research consultant) "I do think that the engineering professions are one of the places we ought to be diffusing to. If they see the operator as part of the system then you have to do nothing else." (in-house consultant) On the same lines, one respondent mentioned that "Tom Lupton would say that the best way of disseminating ideas is to work through engineers." (research unit) The WRU also, as one of its aims, seeks to "influence the training of engineers and managers..." But information is not often aimed at engineers:

"I think job design has never really been taken up by industrial engineers to any great extent in the U.K. Its an area dominated by social scientists generally. And the organisations at the interface i.e. between industry and knowledge, tend to be personnel in orientation not industrial engineering." (research consultant)

However, generally, it was with the personnel function that the majority associated the ideas of changes in work organisation.

Overall then, a contradiction emerges which might help explain why behavioural and social sciences are not more actively used. The commitment of people at the top is necessary, but the people most likely to have greatest information or knowledge of the human sciences - those in the personnel function - are not at the top of the hierarchy. That it is engineers and production managers rather than those in the personnel and

training functions who should be informed on work organisation and job design points to another contradiction: it is usually, as in the case of the WRU, the personnel managers in the organisation to whom such information is directed (or who request such information).

The relationship between headquarters and regional companies can be important. The need for strong local commitment was emphasised, and the issue of local autonomy may be crucial - the projects "where there are difficulties is where there are multi-nationals where the change is beginning to impinge on company policy and they get frightened... so you need a lot of local autonomy to do it." (academic research unit) As one researcher pointed out, the degree of autonomy enjoyed by a local office depends a lot on the type of managers "In one company there was an old fashioned manager who had no time for guidelines from head office - he was going to do it his way." (Research unit) But the degree of flexibility may also depend on the size and structure of the company. It may be that companies will, as one journalist suggests, countenance "industrial democracy at plant level but not as a corporate venture because they are now saying more and more to lower management 'go and do what you want as long as the figures are good'" and by the same token "when the operating company managers get promoted or move and someone else comes in who has not the same commitment, the managing director is not going to interfere." (journalist)

The infrequent mention of research departments, internal consultants, 'back room boys' was notable. This may be partly explained through many of the respondents doing some consultancy work. In organisations with their own internal consultants or specialists there is seldom need to call on outsiders. It may be individuals who maintain a low profile who introduce changes:

"The people who put things in tend to be very traditional - they're not young whiz kids, they just recognise the problems of things as they are. People who regard such changes as natural and evolutionary not revolutionary. I think there are a lot of myths, a lot of stereotypes which just don't fit with reality." (academic research unit)

And there are problems with putting young dynamic men in charge of projects: "there is no real insurance against the go-ahead bloke being promoted and the project lapsing." (academic consultant)

"You find that the factory chooses its most promising people to start an experiment... But those are the prime candidates for promotion. Before long you've taken out the highly motivated people and left the less highly motivated people. But then get those less highly motivated people to select replacements and they select people who are like themselves - naturally - the less motivated in effect, so a successful ID experiment has got the seeds of its own destruction within it." (academic consultant)

It was apparent that it was the large companies who were most likely to experiment. Firstly "being able to afford it is a factor". (research consultant) Secondly, "having the manpower to spare - this helps" (academic); "The larger firms tend to have their own resources" (research consultant) and "as you go down the Times 1000 list, the less well qualified and the less understanding there is of social sciences." (academic) As regards the type of industry only a few comments were made: "it tends to be the larger companies of the not engineering variety - process industries, brewing, food, banking, insurance" (management consultant)

"It appears that it is those industries which operate in an environment of product innovation and higher levels of technological sophistication that tend to take on board the sophisticated personnel techniques which have their origins in industrial sociology or occupational psychology." (information organisation)

Complementary to the findings, in fact, of Burns and Stalker as one respondent pointed out. Opinions, then, which were similar to those expressed by people in ITBs and organisations.

THE IDEA ITSELF?

One question which is central to diffusion is whether it is the idea itself or who and where it is promoted that is crucial. From the respondents replies it seems that a 'good idea' is not enough: "there are people who are carrying a torch and have been for many years and many of them die still carrying that torch." (management consultant)

"Ideas are around which have been pushed and pushed but have never taken off, e.g. Jaques 'payment system' - he's been peddling it for 25 years and during that time I do not think he has made more than a few practical converts. He even wrote a letter to the Times recently saying he had this system so why didn't anyone listen to him." (academic)

However, it was some attribute of the idea that most linkers felt accounted for its success. That the idea was 'understandable', and 'made sense' was mentioned four times, that it 'fitted in with other ideas' and 'current preoccupations' was mentioned on six occasions; that the idea was 'applicable' and 'offered a solution' was most frequently mentioned, 10 times; while six mentions were made of management fads and fashions, and of what a journalist called a 'sexy subject'.

Attributes of an idea

Applicable/offered a solution	10
Fitted in with other ideas/current preoccupations	6
Management fads and fashions	6
Understandable/made sense	4
	26

For the idea to have a 'face validity' and a "readily understandable catch phrase" it is likely to "fit in with other ideas around at the time." What is 'intellectually attractive' is "likely to fit the current preoccupations". While the journalist if he "comes across a 'really good idea' will write it up", the management organisation will look for seminar or conference topics on an 'inescapable issue of the day'. The manager might

find in it "an acceptable way to achieve his aims" while the management consultant is convinced the idea has a future because the issues with which it deals will remain important. Thus, at various stages in the linking and diffusion process, people will take up the idea - for different reasons, but all of which will culminate in the eventual popularity of one idea.

To a large extent the underlying theory in many of these explanations is the notion of a Zeitgeist, so that the popularity of any idea owes much to the corresponding political, social and economic climate of opinion. Thus explanations of the AWG idea take recourse to concerns with worker participation and the Bullock Committee, industrial democracy ideas, a shortage of labour, Scandinavian influence, job enrichment, concern with demarcation lines, small is beautiful, motivation at work, workers wanting a bigger say, etc. etc. But it is still impossible to predict what ideas will be picked up and what coincides, and what does not, with that Zeitgeist. For instance, one journalist pointed out "I can think of ideas such as Flexitime which didn't take off, it was a perfectly harmless idea."

In order to understand why an idea is taken up, the activities of the carriers of such ideas must be looked at. The respondents gave a number of comments on this. Thus, initially "social scientists promote their own thoughts" (management consultant) or "certain ideas catch the academic public and eventually a lot will be produced". (magazine) From there you have "magazine editors trying to find copy", (journalist) their role being apparently crucial because "The idea is dormant until somebody or some institution picks it up." (journalist) Then the idea may receive even wider coverage as "Journalists are a bit like Pavlov's dogs - we will go back to it if it catches attention." (journalist) Consultants

and management organisations respond to the demand for information and implementation, and managers "find ideas attractive because they promise greater output or profitability", (management consultant) or it helps meet the problems caused by a labour shortage. Thus each group of people, in seeking to meet its goals, or maintain its existence, contributes to the popularity of one idea.

This may be the case with a popular idea, but what happened with unpopular ideas - what went wrong, are there crucial aspects missing? Is an idea popular because it is easily simplified and easily applied; did the idea have a small group of very good salesmen or one influential organisation or company promoting its use, a certain level of articles reached, a successful exploitation of the media, the practical evidence gives support, it coincides with problems of organisations, etc. etc?

All questions which must remain unanswered. Overall, one or more of the respondents ascribed importance to newspapers and magazines, t.v., conferences, management organisations, academics, legislation, other companies, and while media coverage was most frequently (relatively) mentioned, it seems it would be impossible to promote an idea through only one medium. Is it the idea, the place, the person? "I have to say its all of them - its a complex combination of variables that relate to such things as recent past experience, the immediate plans for the future...." (academic consultant.)

LEVEL OF INTEREST IN AWGs

It seems that at the moment at least, it is rather lukewarm. That a "marvellous publicity job" had been done on it was claimed, yet various respondents said there was "very little interest" in it; "not much demand for that sort of thing"; "not many queries"; "not much interest"; "going

out of fashion". Others asserted a "continuing interest"; quite a lot of interest; "it won't peter out"; "must have a future". Most of the comments, however, seemed to be impressions rather than facts so that only the occasional person actually referred to work being carried out. Thus, there are, according to a journalist, "4 or 5 outstanding examples in the U.K.". One researcher commented: "The one thing I find totally impossible is to reach any realistically formed judgement of how much is going on in the work group research area because its so diverse - it's done from so many perspectives, by so many groups of people, and no one person knows." Reasons for the lack of implementations were offered:

"If you mentioned Volvo, people know about that because they have seen in on T.V. documentaries and might have read some article on it but they have not been able to translate it into terms of their own organisation. For talking about, yes, but not as a basis for change. It may be something to do with the way the information is presented, it may be the jargon has got in the way; it may be that Volvo etc. have been presented as interesting curiosities rather than as practical changes..." (management consultant)

This point was taken up by another respondent: "people who put forward ideas do not do much about translating them for operational use. It's quite easy to have an idea, it only takes 5 minutes but to make it operational.... may take 10 years of hard slog." (research consultant)

But the overall impression is that there are relatively few attempts at using AWGs. This is surprising given that at a political level, the idea has received some backing.

"You've got the Work Research Unit - every Western society has some institution to which the government gives money - governments normally give money to things it approves of! You've got the European things, you've got the ICQWL which is based around Cherns and that lot and so forth; you've got the ILO which deals specifically with work reorganisation and you've got the Scandinavian Institutes; the Work in America Report the Quality of Working Life report - it started at that level." - "the aim being, to reverse some of the processes of industrialisation which it seems are bad for people, whilst maintaining economic success..." (research unit consultant)

Yet parallel with this governmental interest, it seems that the trade unions are not interested in work groups or similar ideas "The T.U.s are so disinterested - even the AUEW and T & G - they're interested in power within the company and they don't really see job enrichment as having any part of it." (free-lance consultant) "The unions are not interested here in work groups. Craft problem here - demarcation disputes, overlapping responsibilities, job rotation, so not with craftsmen and their long training, plus the territorial animosity between managers and workers." (journalist) So, according to an academic consultant whose "impression, I wouldn't be able to give you data or evidence - is that work groups are going out of fashion and that the reactions from the unions will precipitate that, well if not precipitate it, certainly encourage it." (academic consultant)

Some aver that fashions have changed so that organisations are now much more concerned with the introduction of office technology

"They are much more concerned with what work processing systems to go for, new communication devices... The technology is having a profound impact and I think there is total bewilderment and confusion around about how to organise it and what the issues are." (academic consultant)

Others feel that AWGs are part of "a general movement, as part of a much larger process because I think people are beginning to realise that if you do things in isolation without support then it will fail - I think the participation idea is coming in slowly on a much more broad..." (in-house consultant) Similarly, it is organisation development which is one of the most recent specialisms within management and insofar as "job design and AWGs come from organisational development, rather than the other way round, which lead to... you've got to have a good support basis for these programmes, and be committed to participation." (in-house consultant) Nevertheless, one respondent remarked: "not all, indeed very few, organisations had organisation development functions." (academic consultant)

But if, as some respondents suggested organisations have "always got a pretty hardnosed concern for production" (research unit) then techniques such as AWGs which are presented as palliatives are likely to continue to be of interest. Of course, "even when an idea dies in a particular form, it may continue to influence succeeding ideas." (Schon, 1971, p.138).

The amount of interest in AWGs is now only lukewarm and there are few implementations being tried despite political backing for the QWL movement. This may reflect trade union disinterest or merely that fashions have moved on. However, the AWG idea is likely to influence, or be incorporated in, the currently popular ideas.

SUMMARY

Contact with 33 organisations or individuals concerned with linking was made. These were primarily connected with other journalism or consultancy, although most respondents carried out a number of other linking activities. Many of these related to publications. Looking more closely at publications it became clear that topic range was restricted due to:

1. publications being much influenced by the content of others;
2. journalists moving jobs within the media, learning and transmitting norms and practices from one publications to another;
3. the editors' preference and audiences' views are borne in mind by staff and free-lance writers alike. Thus, any newness of topic is within bounds.

The role of consultants per se is not great. Reacting to demand and favouring 'package' applications, the many criticisms of their activities ensures that their role is seldom innovatory. Consultants (other than academics) are not often associated with work organisation changes such as AWGs.

Implementations of AWGs have been associated with the Tavistock, the WRU and the ITBs. As linkers, their impact is mixed. The Tavistock reaches large companies rather than commercial consultants; the WRU, often criticised, lacks impact; and, the ITBs, although important in certain industries, are not central to the diffusion process. It was a small group of individuals not organisations which was important. Most of these seven 'senior fellows' had, however, had close contact with the WRU or the Tavistock.

The importance of personal contact kept emerging - for all linkers: "in the conference circuits; at seminars and courses; when seeking information and obtaining work. The centrality of this personal contact was emphasised by the existence of networks - for both managers and linkers."

While journalists picked up the behavioural sciences as they went along and consultants often had had contact with the social sciences (or some element of them), the emphasis in both cases was on the need for practical experience: journalists to learn on the job; consultants to have had industrial experience. As in industry theoretical knowledge was not highly valued. Interest in the social sciences - again translated to 'behavioural sciences' - was felt to be limited and although included in courses, etc. its presence was disguised. In turn, opinions of U.K. management were not high; the importance of personal contact again noted, and it also being mentioned that managers read little. Large, technologically innovative companies were felt to be more receptive to social science.

The popularity of an idea owes much to the disparate and uncoordinated activities of different groups of linkers. While the popularity of AWGs is waning, it continues to influence other ideas.

DISCUSSION

There are, of course, problems in extrapolating from a small number of respondents in a variety of linking roles. Nevertheless, in the absence of research in this area, assertions must be made which future research can investigate in greater detail. The varied and multiple roles of linkers similarly do not make it easy to disentangle, or attribute importance to, the activities of specific groups in the complex picture of linkers which has emerged from the research.

What has become clear is that most of the activities which might contribute to linking have a questionable impact. Courses, seminars, conferences, publications, consultancy - none of these are necessarily influential. Managers read little, consultants do not initiate but react to demand, conferences are valued for who you meet not what you hear - at least for linkers. While individually, none of these activities are especially important in diffusing ideas, in conjunction with one another their role expands. In the same way the activity of one person may be irrelevant, no matter what linking role is occupied, but taken in conjunction with the activities of other linkers, diffusion may be achieved. In other words, some sort of 'critical mass' is reached when the various groups of linkers, in pursuing their own ends, act and react upon one another.

However, a small group of people was found to have greater influence in diffusion, the 'senior fellows' who can be found in most fields. These are the 'experts' whose seal of approval may add weight and prestige to attempts to diffuse an idea or practice. It would be interesting to see if such a group could be identified in other areas, and to investigate further the role such a group plays. In the field of AWGs they were fairly easy to identify through the number of their publications, their

organisational affiliations and personal contacts. All but one had been involved with either the WRU or the Tavistock suggesting that organisations do have a role to play in 'establishing' selected individuals who come to comprise the 'Invisible College' in the field of work organisation. (Not surprisingly, the activities of the other 'old star', the outsider without the organisational connection, were criticised or not highly rated by the six). Other organisations such as the ICQWL also have a role, insofar as they enable the field leaders to keep up with each other, to know what is being done and what is being planned in the field. In turn, a few organisations have recognised the importance of, and have consciously used, networks, such as the ATM and OD Network. To discount the role of organisations therefore would be foolhardy, but their role, at least as regards AWGs, is not outstanding. Whether or not this finding would be echoed in other fields is a debateable point and one worthy of further investigation.

The importance of personal contact for linkers and for consumers is quite startling. Credibility in one's source of information is of paramount consideration in many linkers' activities. Even academics, who rely more on reading than contacts to stay informed, accord a large role to personal contact at conferences, etc. Consultants reputations are transferred verbally; journalists rely on their established contacts for stories; people 'known' in the field are asked to write articles, give lectures, contribute to courses and conferences. It is personal knowledge, first-hand and informal contact which matters, with little weight being given to the impersonal. Again it was individuals, not the organisations to which they were affiliated, who were remembered, adding to the recurring theme of personalisation. Similarly, organisations with a government base, and a corresponding association with bureaucracy, had a reduced impact.

This dependence on personal contact is an extremely interesting finding. It argues against formal information - diffusing activities whether in the form of advertisements, books, courses or conferences. The formal mechanisms are bypassed, even ignored, in information seeking. The potential exercise of power and exclusivity of this system of personal contacts should be borne in mind and is an aspect which would be rewarding to research to find out how it operates and if such a system can be bypassed in diffusion. It would also be intriguing to discover whether the importance of personal contact is also to be found in other countries like the U.S.A., or if the situation in Britain partly reflects an anti-intellectual and anti-training stance in industry generally. The emphasis on practical experience rather than theoretical knowledge is, after all, a roundabout way of saying that 'getting the job done' depends on social skills, working with and through people at a face-to-face level.

However, formal linking is important because it enables the informal contact to take place - it sets the scene, providing a forum for people with a common interest to meet and exchange views. It is through articles that academic consultants may be contacted, it is through courses that familiarity with academics is fostered, it is through conferences that people are 'placed' in the hierarchy of the field. It would be difficult therefore to allocate influence to the informal without recognising the crucial role of the formal.⁸²

The role of commercial consultants does not appear to be large in diffusing new ideas, but exceedingly little is known about their activities. For instance, are many consultants employed on an open-ended basis? Do they have any innovative role to play, and does their commercial base affect this role? Are some firms known to be innovative; do some act as field leaders? What importance is accorded to social science in their activities? If there is resistance to social science ideas, is this a

reflection of consultants' or industrial attitudes? It would be most intriguing to look more closely at what, how and the extent to which consultants incorporate social science into their activities. Do consultants, like managers, only pay lip-service to innovativeness? In other words, do consultants resist social science ideas?

The influence of publications on one another is outstanding and must negatively affect the range of topics presented. Many further questions pose themselves here. Are there publications, or even journalists, who act as field leaders and whose 'seal of approval' is required for substantial topic coverage? How easy might it be to promote an idea by influencing one or two influential publications? How 'closed' is the world of the mass media and how does this affect topic selection and presentation? How do journalists reconcile the conflicting demands of audience, editor and peers, and how is this tension reflected in topic selection? All questions which must await further research.

Schon suggests that the diffusion process "is more nearly a battle than a communication..." (1971, p.95). This is certainly the case regarding social science where there is a "dynamically conservative plenum" (Schon, 1971, p.95) into which information moves. Social science ideas are resisted, there is antagonism and antipathy to the subject. Yet there are counter-pressures from governments: in the form of legislation, governmental bodies, even grants; from economic factors: competitors' activities; from the social sphere: in movements to alter conditions of work; etc. Why certain ideas are taken up, say, at governmental level is hard to say. Elliott in 'Conflict and Cooperation' (1978) traces the growth of industrial democracy in Britain. There, as in the case of the Quality of Working Life (which encompassed AWGs), it was the interest of a small group of people, not acting in concert, which sparked things off.

In the case of industrial democracy, the Donovan Commission became interested in the topic through evidence given by one TUC economist. Yet the labour correspondent of the Time, a General Secretary of the TUC, and EEC Membership all contributed to its take-off as a subject for debate at all levels in British society. Although the QWL - not altogether distinct from industrial democracy - did not enjoy the same popularity, it nevertheless received a surprising amount of political backing. Wilson's report, the influence of Scandinavia, especially in the days preceding Britain's EEC membership, the Bullock Committee, are only some of the strands of influence. It seems that again, a coincidence of attention takes place as the result of a number of individuals or bodies pursuing their own, disparate interests.

As for the role of academics, they too are part and parcel of others' activities, and should not be looked at in isolation. As consultants, their role is small and their impact curtailed. But, it is hard to evaluate the impact of their varied activities. Certainly they are attended to: by journalists, by managers, by publishers. Quite a number of academics are not unwilling to be of use to people in industry. But it does not appear that it is sociologists as such who offer their services. It is academics who may have had a sociology input at some stage in their career. Of course, some sociologists do have their work taken up and they are normally extremely pleased when, say, a Penguin paperback edition is suggested. Antipathy to the world of industry and commerce stops short of royalty cheques.

Nevertheless, the activities of academics should not be minimised; they are, after all, the teachers in all tertiary education. They play a large role in training in industry, as speakers at conferences and seminars, as well as in a range of publications. In the absence of academics, the

activities of other linkers would be much reduced and restricted in their focus, and the range of ideas available for diffusion, and use, similarly depleted. Of course, it may be that in disciplines with less potentially (ideologically) radical ideas, the role of academics is greater due to a correspondingly reduced suspicion of their activities by their various audiences. This is an area which it would be interesting to research further.

Easily obscured in looking at the activities of linkers is what must be their ultimate and not always obvious goal - of reaching and appealing to people in industry. The ideas these linkers are purveying relate to industry and even although the linkers seek to reach other linkers, the appeal has to be in terms of the perceived industrial needs and demands. Whether it be to stir British management up; to offer useful advice or warnings; to present European practices, or academics' findings, the ultimate audience is an industrial one. The linkers perception of their audience will influence their presentation of ideas. Thus the antagonism of management to social science is pre-empted by disguising its presence. Articles are often short and sweet, lacking in relevant detail (as was found in the publications section) which are more likely to appeal to an audience which spends very little time reading and of which these respondents had a low opinion. Similarly, in the selection of linkers themselves, emphasis is often put on the need for practical experience, echoing the views of those in industry that the skills of management cannot be taught. In order to appeal to an industrial audience, the perceptions and preoccupations of that audience will be borne in mind. Ideas which are compatible with prevailing attitudes (even though they may have elements which do not fit) are those which will be presented. Ideas antagonistic to management are unlikely to be presented by people who seek to keep their jobs, their industrial clients, or their credibility with other linkers

who seek to reach the industrial audience. The less acceptable parts of ideas will be played down, the radical obscured. Nevertheless, ideas have unknown and unforeseen repercussions and in purveying some idea, new and radical elements can be introduced into management thinking and even practices - (on the lines of a Trojan horse) - though it is doubtful if this is even consciously planned. In this way, change can infiltrate management thinking and in turn affect management practices. Some ideas are presented as radical and new - whether or not they appear as such to the onlooker is immaterial. What matters is that the presenter and the adopter respond to these ideas as being radical and new. Thus adopters of the practice or theory are not seeking to stay close to present and accepted practices but are seeking (and perhaps are forced to seek - see Ramsay (1976)) new solutions to their recurring problems.

Nevertheless, ideas to be potentially acceptable, should not clash with attitudes fundamental to the capitalist organisation of enterprises. So while ideas may be new, they are unlikely to be radical per se. In this way, change will be slow and manageable. Ruptures and severe disturbances will, as far as is possible to foresee, be avoided. Order and control of the world will be maintained. However, no predictions can be made as to which ideas will achieve popularity and what will not. Similarly, no predictions can be made as to what ideas will appeal to academics to pursue, or which ideas will catch the attention of linkers and the interest of consumers. While general statements are possible no specific hypotheses can be constructed. Fashions still cannot be forecast.

While much information about the activities of linkers has been obtained, they are only part of the process of diffusion. Much of the impact of linkers depends on the response of their audiences, the largest being their industrial audience. It is to a consideration of a part of this audience that we now turn.

CHAPTER SEVEN

The Brewing Industry Interviews

THE BREWING INDUSTRY INTERVIEWS

PART 1

The linkers are only a part of the process of diffusion. Also central to any investigation of the 'servants of power' thesis must be an examination of information received within industry. Surprisingly little work has been done in this area and much of what has been said reflects a 'common-sense' view of how diffusion takes place. Little is known, for instance about what, how and why information is sought, picked up, attended to and used. The need clearly existed for a study to be made, in depth, of the variables in, and affecting, industrial organisations' role in diffusion. It was to meet such a need that a case study in an industrial context was made.

The brewing industry was chosen for an initial exploration into the processes of diffusion. It was chosen for a variety of reasons:

1. as an industry it has an easily defined boundary;
2. there is a wide range in company size;
3. while very traditional in nature, it is currently coping with great changes in technology, consumer taste and attitudes; and
4. an attempt to introduce AWGs had been made in the industry.

Comparison with one or more other industries was not really feasible. Constraints of time and money meant that more than one industry could not be covered in any reasonable depth. Merely to compare two industries would be unsatisfactory, any differences found could be attributed to innumerable variables. The aim, therefore, was to explore the differences between various sizes of companies within one industry and try to indicate some salient factors in the diffusion process. The idiosyncrasies of any

one industry make extrapolation difficult - each industry having, and claiming, its own peculiar structure, history, problems, etc. Brewing is no different. A traditional, 'very inbred' industry where family firms and names persist even in the largest companies, brewing has, according to one personnel manager, been rather slow in "its methods of management and the development of managers". Many companies operate on a "brewery baron sort of system" (training organisation respondent) where there is a "great divide between the Directors and the rank and file" (personnel manager). Yet it is an industry with a fairly low turnover, according to an ITB observer, of "well below 5%, and 3% of those are by death or retiral."

The brewing industry is dominated by six big companies (whose share of total beer production in the 70s was 70% and still growing) and one other large company which is slightly different from the others: Guinness. Producing stout rather than beer it is not in direct competition with other breweries and not having any tied houses, relies on other brewers, through their tied houses, to sell its products.⁸³ Sometimes the large brewers are referred to as the 'Big Seven' to include Guinness but it is mainly the Big Six which is mentioned, Guinness being treated as a separate case.

While the brewing industry has been notorious for its "merger mania" (Manasian 1979) there are still over 85 small brewing companies and six good-sized regional companies, despite the overall dominance of the Big Six.

METHODOLOGY

A small pilot survey, (whose results are included in the main body) was conducted in four breweries of varying size⁸⁴ to check that the planned questions elicited the required information in useable form, which they seemed to do. The breweries visited were split into three groups, classified by the number of employees engaged on the brewing side. It was for this reason that Guinness was classified as a medium sized company because its small labour force is partly due to the fact that it does not bottle its own product.

The Big Six companies ranged in size from 7,390 to 23,000 employees; Medium sized companies ranged from 600 to 2,000 employees; and, small companies ranged from 150 to 750 employees.

It was decided to include two companies (one with only 600 employees) in the medium sized group because they had large parent companies - one of which had other brewing interests) and their existence meant that the two companies had very much greater resources at their disposal than any of the small companies. Another company in this group had a headquarters separate from its U.K. brewery.

Of the small companies, one was a cooperative society, owned not by the workers but by the Working Men's and other clubs it supplied. It was decided not to include any breweries with less than 100 employees on the grounds that they were unlikely to have any knowledge or interest in the social sciences.

The interviews were conducted mainly in the second half of 1979. Altogether 24 were carried out, 27 people being talked to (three interviews were conducted with two people):

6 at Big Six headquarters (HQ)

7 at operating companies (OC) of the Big Six

6 within the medium sized companies, two of these being at HQ level

5 within small companies.

The interviews in the small companies and in both the medium and large operating companies (with the exception of one operating company in London) were concentrated in the North East, North Yorkshire and East Lancashire. The headquarters of the Big Six were visited in their various locations.

The interviews were designed with a number of aims in mind:

1. To find out what and how aspects of company organisation affected attitudes to, and practices regarding, social sciences. Relations between HQ and OCs were looked at here; whether HQ was treated as an information resource or not; company policy and practice regarding graduate recruitment, and **management training**; and attitudes to, and organisations used for, management training; as well as company circulation of information.
2. To find out how social science information, if any, could enter organisations and in this way identify the factors which encouraged or impeded this flow. To look at the ways in which companies 'scanned the environment' for information. With some overlap with 1. above, the organisations used for management training were investigated; attitudes to, and use of ITBs; conference and seminar attendance; company membership of organisations; inter-firm contact - and as a measure of this, the amount of knowledge held about innovations within the industry; contacts with the academic world; use of management consultants.

3. To identify the social science resource persons in the company, and their department, their training which might relate to the social sciences, their organisational membership; attitudes and opinions about the social sciences; the information sources they would use for social science information.
4. To discover what use, if any, had been made of the social sciences (or was thought to relate to the social sciences). Here changes tried in the company were examined, who had initiated them, the climate of opinion in the company to the social sciences.
5. To find out what knowledge, if any, was held about AWGs, and where it came from; the potential use of AWGs and opinion of the idea.
6. Finally, related to no. 5, how managers obtained their information. An aspect covered in many of the above areas supplemented by looking at managers' reading and information seeking activities.

In short, the aim was to find out how, who, when, where and what factors affected the diffusion of social science information in relation to firms in the brewing industry.

It seemed that people in the personnel function were most likely either to know or be expected to know about information relating to the social sciences. Letters were therefore sent to the (named) Personnel Director or Personnel Manager in each of the companies. The letter was so worded that it would tend to end up on the desk of the person who might be asked to deal with queries on the social sciences.

"As part of my Ph.D. thesis I am looking at the content and quantity of information which reaches managers in industry regarding the behavioural sciences.⁸⁵ In this connection I am planning to interview the personnel managers in a number of brewing firms. I should very much like to come and talk to you about this. Could I phone you later in the week to arrange a suitable time to visit the company.

If you feel that there is someone else in the organisation who it might be more suitable for me to see, perhaps you could let me know when I phone?

Your help will be most appreciated and I do hope you can manage to see me."

Not once was access refused. While respondents had a variety of job titles, they could be classified into three groups. Of the 27 people interviewed, 4 were at director level, 19 at manager level (personnel, training, and in one case manpower services) and 4 at assistant manager level (two of these were in companies where two people were interviewed). Only one respondent's job was outside the personnel function, although he had recently been put in charge of personnel. Only one of the respondents was female. The interviews varied in length but were usually of at least one hour's duration. In four instances a time limit was put on the interview by the respondent so that in these cases the data are not as full as might be wished. Only in two cases was permission to use a tape recorder refused and shorthand notes were taken instead: a less preferable method as concentration on recording the responses tends to result in a more stilted and less conversational interview.

HEADQUARTERS - OPERATING COMPANY RELATIONS

The relation between Group Headquarters (HQ) and the operating companies (OC) is important regarding diffusion. If HQ closely oversees and controls what happens at OC level, then social science resources at OC level will be of lesser importance. On the other hand, if OCs enjoy a considerable amount of autonomy enabling them to initiate changes with only minimal involvement of HQ then the resources regarding social science held at OC level will be highly relevant. For this reason, various aspects of the relationship between HQ and OC were investigated: to what extent HQ is used as an information resource; what type of contact exists between HQ

and OCs as well as between OCs; what degree of autonomy do the OCs enjoy?; what involvement would HQ have in work organisation changes in OCs? what is company policy regarding managers - are they treated as company resources and transferred around the OCs, fostering in turn contact between OCs? Similarly, are graduates treated as company resources? Is management and graduate training organised and undertaken centrally or locally with the greater chance of idiosyncrasy?

Within the Big Six and medium companies the number and type of links vary. In two Big Six companies, the brewing company is one of the many divisions of the large parent company. In one of these, control by the parent company is minimal, except as regards finance and investment. In the other, considerable influence is exerted by the parent company and a wide range of resources are available to, and made use of by, the brewing division. All Big Six companies or divisions and 3 medium companies had a number of subsidiaries or OCs, the HQ being administratively separate. The HQs were not directly involved in production and acted as administrative and resource centres for the OCs. The extent to which HQ resources were used by OCs varied. Two HQs (one Big and one medium) were used extensively and primarily as information and advice resources by the OCs. But the OCs were more self-reliant in 5 Big and 2 medium companies and the role of HQ here was more one of monitoring and liaising with the OC.

In organisations where contact is formal, where policy documents are issued as directives and where HQ dominates, it would not be surprising to find that information tends not to be volunteered, where tentative suggestions and new ideas are not advanced, that an over-structured organisation inhibits the free exchange of views. (For a discussion of these, see Wilensky, 1967, p.42) As regards contacts between OCs (within a company) in three Big companies contact was maintained through HQ and

in the other three Big companies, contact was maintained independently of HQ. In the latter case, this presumably reflects either a greater degree of autonomy or greater identification with other OCs than with HQ. In the three medium companies there was less scope for contact between OCs - in one instance it was not possible at all - as there were only one or two brewing OCs. Contact in the medium companies for this and other reasons (such as size) tended to be more informal.

Contact between OCs and HQ is fostered indirectly if managers are transferred around the Group: "I think that at practically every OC there is someone I know who worked in Blackburn at some time, some stage in management...." (training manager). In all Big Six and one medium company, managers were treated as a total company resource and moved around the Group accordingly. In the other two medium companies managers were placed and would remain in the OC for which they were recruited. By treating managers as company resources, HQ influence can be increased because managers while being transferred from OC to OC will reflect HQ rather than OC practices. As one HQ personnel manager noted "you don't want people to develop particular quirks that would not be suitable elsewhere." Thus local OC practices and attitudes will have a correspondingly reduced impact on the company men - the managers - who spend only a limited amount of time in one location and whose future depends on HQ rather than the OC.

As suggested by comments by Burns & Stalker (1961, p.211), Wilensky (1967, p.174) the personality and style of the top man in the OC and in the HQ was important - in this case in relation to the amount and type of contact between HQ and OCs:

"some OCs are very full of initiative, take their own initiative, such that when they've made up their minds, it's almost too late for us to have an influence over it; others will take a suggestion from us as an instruction and everywhere in between. It depends on their style of management - each company is different and has its own personality."

On similar lines, one OC Personnel Director said his OC "would use HQ as little as they have to.". Another aspect was mentioned by one medium HQ to the effect that HQ is not used as a resource "on the personnel side if the OC has got sufficient expertise of its own to resolve its own personnel problems." One OC personnel manager of a Big company remarked that when chatting with people in other OCs, it was "not as freely as we ought to because there is still an internal competitive spirit." Thus three factors were identified as important in influencing contact with the companies: the personality or style of the top men (at HQ and OC); the amount of expertise available at OC level; and, whether or not a competitive spirit existed within the company.

As regards the degree of autonomy enjoyed by the OCs, in four Big and two medium companies this was held to be considerable. In one Big company the amount of autonomy was said to vary from OC to OC and in the other, the policy was now to restrict the amount of autonomy, it being felt that there had been too much in the past so that policy was now "that the centre becomes more and more strongly dominant." However, claims of autonomy ought to be treated with caution. In all the companies there was a heavy emphasis on 'not rocking the boat' which in effect meant 'don't do anything which might adversely affect other OCs and lead to demands for equivalence'. Whether or not the application of social science ideas in changes in work organisation would come within the scope of this is debateable. It was stated by a personnel manager for instance "in personnel there is a heavy steering in terms of policy so that though there are differences in policies they are within a boundary, so they are never too far away from that boundary." (Three Big companies mentioned this factor). Thus, if personnel was the strategic location for social science knowledge/resources then the limited amount of autonomy enjoyed by OCs in personnel

matters would indicate the more important role of HQ as a social science resource. In response to a specific enquiry it transpired that work organisation would not normally be initiated without HQ knowledge, approval or involvement. As regards changes which had taken place - in five of the Big companies HQ had either initiated or been heavily involved in any decisions taken. In only one Big company did the Ocs initiate and introduce changes - with the knowledge and approval of HQ. The HQ training manager put the HQ interest regarding any changes bluntly to the effect that they would be concerned as to "whether or not it was something that was capable of extension or control." And, it is of course, around issues of control that any discussion of autonomy implicitly revolves.

These considerations are important because any uses or contemplated uses of social science - likely to be seen as innovative - will come under the scrutiny of, or be seen in the light of the interests and therefore the authority of, HQ. So it seems that it is HQ personnel who are the strategic gatekeepers in the brewing industry. While there may be 'gatekeepers' in the local companies whose activities may or may not result in the consideration of using the social sciences, it is at HQ level that such ideas will be quashed or supported. Therefore, it is the attitudes of those at HQ which are likely to filter to the OCs. An HQ antagonistic to the social sciences, or found to be so by the OC, is unlikely to be inundated with repeated requests or inquiries, although one HQ had been presented with a fait accompli! As Tugendhat noted in relation to multi-nationals (1973, p.126), "in any event the subsidiaries are supposed to put the wider interests of the company as a whole above their own, and the managers know that their own future and promotion prospects depend on the good opinion of the top men at head office."

However, the extent to which OCs are sympathetic to the social sciences may be increasing in importance. Firstly, because social science does not have to enter as a 'package', it may equally, and perhaps more influentially, 'permeate' attitudes and practices. Secondly, there seems to be an increasing move to decentralisation in the industry so that OCs are given profit targets to meet and how they are met may be irrelevant. Thirdly, in companies in which managers frequently transfer from OC to OC, or OC to HQ, then attitudes towards the social sciences are diffused (whether negative or positive). Similarly, a local 'gatekeeper' may in time become a strategic gatekeeper and of interest here is the extent to which the 'company line' on social science (implicit or explicit) has been adopted by that person, and the extent to which an orientation to HQ is fostered.

The relationship between HQ and OC, while not being simple, does give an overall impression of HQ dominance, the role of OCs being carefully curtailed or operating within predefined limits. The role played by HQs will also be reflected in company practices and policies regarding graduates and management training and development.

GRADUATES

It is through the input of graduates that much of the information flow regarding the social sciences is assumed to take place. Five of the Big Six and two medium companies have a centrally coordinated graduate recruitment policy. Graduates are screened initially by HQ, passed as 'suitable' before being placed in OCs for training 'at the sharp end'. In only two big companies were graduates recruited for specific functions. Graduates then are treated as a Group resource recruited as such, and, according to two OC respondents, 'imposed' on the OC. Thus it is likely

that graduates will be sympathetic to HQ rather than OC interests (should the two differ) - an attitude further encouraged in some companies by graduates being paid centrally. But in only one large and one medium company was there a formal graduate training programme undertaken at the HQ training centre. The other companies instead stressed the need for graduates "getting their hands dirty"; and that "the real practical training is on the job". The rather laissez-faire attitude towards graduates training might well diminish the importance of HQ for the graduates, and certainly suggests that HQ control in this respect is not great.

The recruitment and training of graduates is a long-term investment and expensive. This helped explain why two medium companies (one without an HQ) sought experienced, competent people rather than graduates when they (management training and development manager) "had to 'shift a lot of coal very quickly'" and why no small companies recruited graduates per se.

TYPE OF GRADUATE RECRUITED Between 12-25 graduates in big companies and 2-10 in medium companies are recruited annually but very few have been social scientists. Although there has been a strong emphasis on graduates for the production side for many years, the recruitment of graduates to other functions is a recent occurrence. But judging from the composition of the various personnel departments, as far as the details were obtained (whether colleagues were graduates was not always known) there are few who would have had contact with industrial sociology. While there were seven economics graduates and four psychology graduates (one of whom had a Ph.D.) there were only two in sociology both jointly with economics. There were graduates in the other areas where industrial sociology might be included in the curriculum: four Business Studies, one Industrial Administration, and three Masters degrees in: Manpower Studies, Personnel, Economics. But there was an equal number of graduates

with degrees in History, Geography, Mathematics, Classics, etc. Certainly, there was no evidence of social scientists being specifically sought for personnel.

Only in two of the Big Six companies were graduates recruited for specific functions and it therefore is likely that only in these companies could a social science graduate be recruited with an intention to use his or her expertise. In the other companies there was no certainty regarding where a graduate would end up, in part depending on the choice of the graduate and partly on the vacancies available. And even in these two companies there appeared to be very few social scientists - only one person with a psychology degree was mentioned. Thus it is not through the recruitment of social scientists that relevant social science information enters organisations in the brewing industry. And, as will be seen later when attitudes to the social sciences are examined, even those social scientists who are recruited may be the least enthusiastic about the social sciences and sociology.

There is undoubtedly a very traditional element in brewing, a fact mentioned by almost all respondents. Thus in relation to the recruitment of graduates one large and one medium sized company mentioned that it was Oxbridge graduates particularly who were sought, or had been sought in the past (only two of the respondents were themselves Oxbridge graduates, both in small companies). Other aspects of the brewing industry are worth noting to round out the picture. Firstly, three respondents (two large OC and one small company) mentioned the fairly recent establishment of a personnel department in the company with the result that there was concentration on (training management) "the nuts and bolts and building up personnel". And in a small company, the personnel manager remarked "we act very much, and have grown rapidly over the last four or five years

simply to service managers who, if not incapable, are unwilling to change their ways." Only one company (a small one) did not have a personnel department as such. Secondly, one respondent in a large company known for its innovativeness said regarding other companies "we are well behind with practices in our company, as a company in the brewing industry, we are probably as near the fore-front as we want to get." Thirdly, there was in the small companies some pride in admitting that the company was run by amateurs (personnel manager) "We're complete amateurs all of us!" But another more regretfully admitted (training manager) "We're very much an amateur set-up."

MANAGEMENT TRAINING AND DEVELOPMENT

Management training and development is one way in which the social sciences may enter an organisation. Thus it will be interesting to look at attitudes and practices regarding management education. If attitudes are negative, then it is unlikely that inputs, such as industrial sociology, into that education will have much impact. Before considering this, it is also worth looking at the role of HQ and OCs in regard to management education and training.

All of the Big Six and two of the medium sized companies had their own training centre⁸⁶ although as OCs increasingly carry out their own training, some appear to be running down in size. But in five of the Big Six, OCs were responsible only for training up to supervisory level and occasionally at junior management level. The HQs tended to concentrate on middle and senior management training, e.g. "there is a much greater degree of central involvement.. the more senior the guy is"; "management training is budgeted for and controlled centrally."

The two medium companies which did not have their own training centres mentioned a much larger number of organisations and institutions which they used for training than the large companies, and in one of these companies there were exceedingly strong links with training establishments (these strong links perhaps reflect the greater reliance on external resources, more attempt being made to exercise control and maintain personnel contact and, therefore, influence over them).

ORGANISATIONS USED FOR MANAGEMENT TRAINING

Intra-industry links and influence become apparent when looking at the organisations used for management education by brewing companies. The number of organisations mentioned was relatively greater for the medium than for the large companies, with very few organisations being mentioned by the small companies (although in the small companies it may be that a proportionately greater role was played by the fewer organisations mentioned).

The most frequently mentioned institutions were Ashridge Management College (three by large, four by medium, one by small companies); the Industrial Society (two, two, three, mentions respectively); Henley - Administrative Staff College (two by large, three by medium companies). Polytechnics and local technical colleges were mentioned six times (one three, two respectively) as was the Outward Bound type of management courses (five, one, one respectively). Five mentions of the London or Manchester Business School were made by medium companies but only two of LBS by a large company. And five mentions were made of PE management consultants and their training centre at Sundridge Park (two by large, three by medium companies). Other institutions such as Bradford Management Centre and Cranfield were both mentioned once by one large and one medium company.

Harvard courses (held in the UK) were mentioned three times (two large, one medium). Both the BIM and IPM were referred to three times (two large, one small). However, it was only in small companies that mention was made of Training Within Industry (once) and the TACK organisation (twice)

Organisations used for management education

Mentioned by	<u>Large</u>	<u>Medium</u>	<u>Small</u>	<u>Total</u>
Ashridge Management College	3	4	1	8
Industrial Society	2	2	3	7
Administrative Staff College (Henley)	2	3	-	5
Polytechnics/local technical colleges	1	3	2	6
Outward Bound type courses	5	1	1	7
LBS or MBS	2	5	-	7
PE management consultants (Sundridge Park)	2	3	-	5
Bradford Management Centre	1	-	-	1
Cranfield	-	1	-	1
Harvard Courses	2	1	-	3
BIM	2	-	1	3
IPM	2	-	1	3
Training within Industry	-	-	1	1
TACK	-	-	2	2
	24	23	12	59
<u>/Coverdale</u>	5	<u>17</u>		

There is a tendency to use local organisations so that costs are minimized and this will restrict choice and perhaps account for the greater number of polytechnics and local colleges mentioned by small and medium companies. Another factor is that the institutional affiliations are likely to be greater the larger the company and this may well influence choice. While there are no surprises in the organisations used, the frequent mention of the Outward Bound type courses is noticeable and seems

surprisingly high given the rather exotic nature of these courses. The courses are rather rigorous management leadership courses much acclaimed by some respondents even to the extent that in one medium company a director had said he's "not promoting anybody beyond a certain level unless they've been to Brathey." An advertisement for one such course runs "Discover the full physical and mental potential of your employees when challenged by problems outside their normal experience. These courses... allow you to evaluate the characters of employees, increase their confidence and trust in each other and encourage teamwork." (Industrial & Commercial Training, 1930, p.77).

Each of the Big Six companies were heavily involved in one or another type of management training programme. Two companies were extensively engaged in counselling skills for all their managers (both HQs were in the same location). Others had, in the past, been variously involved in schemes such as MBO, Action-Centred Leadership, Action Learning. But each one of these schemes had been replaced by another, giving support to the claim that there are fads and fashions in management development. One large company "until recently was one of the companies which from top to bottom, very widely applied to action centred leadership management training."⁸⁷

And this had

"very good courses, very successful - people bought it - but there has been a change of emphasis. Instead of a manager and his staff being dealt with on a one-to-one basis, now you develop team work, people work in teams and so there is now a very substantial investment in Coverdale..."

While Coverdale had not totally displaced ACL in all the OCs

"where its /Coverdale/ not right is where management style is fairly autocratic and doesn't see any reason why other people ought to be involved and the people themselves don't want to be, then that style of management is better served by ACL..."

Not only is there some evidence of fads within companies, there also seem to be fads within the industry.

COVERDALE TRAINING

While the Outward Bound courses have achieved a number of converts, it is regarding Coverdale training that there is amazing uniformity. In 5 of the big companies (the topic was not mentioned in the other interview due to lack of time) and in one medium company, extensive use had been made of Coverdale training, and three of these companies were currently very involved with it. Why this particular type of training should have been used by all these companies is by no means clear, but as the Coverdale Organisation does not advertise it seems that word of mouth recommendation must be reasonable for its popularity. Certainly, that is the view of the Coverdale Organisation (given in a letter). It does, however, appear to be clear evidence of the links which exist between, and the influence exerted by, companies within the brewing industry, and of the extent to which diffusion of a practice has taken place. Various called 'interactive skills development'; 'self-development of individuals' it is used as part of individual manager development programmes. It has been used in great depth in some organisations - indeed in some companies all levels of managerial employees down to and including supervisors. The training programme, called 'The practice of management principles' is run in two parts. Senior managers go on public courses where managers from other companies such as IBM, ICI, Shell, as well as other breweries will be present. Courses internal to the company are also run for supervisors and middle managers. Part Two courses tend to be public. The cost of Coverdale according to one company visited in early 1980 is approximately £260 for Part 1 and £380 for Part 2, so in one company which has put 100 managers through Part 1 and 50 through Part 2, the cost to date amounts to £45,000 - quite a considerable investment in management development, in an area in which evaluation is notoriously difficult. One large brewing company was estimated by an observer (free-lance consultant/journalist) to have spent somewhere in the region of £½ million on it.

It is notable that Coverdale enjoys popularity in two other industries: petroleum and chemical, both of which to a greater extent than brewing are continuous process industries. Coverdale was first used by Esso - Ralph Coverdale when he left Esso to set up his own consultancy company had, as his first customer, Esso and it was natural to move into other large process industries like ICI. Another parallel in these three industries is that they have all counted on fairly healthy profits - though in brewing and chemicals the large profits and rapid growth of the last decade are no longer being maintained. As will be seen later, brewing is an industry in which there is a great deal of interfirm contact and if this has contributed to the popularity of Coverdale training, as seems likely, then it is possible to conjecture that in the petroleum and chemical industries similarly close contacts are maintained. In other words, the degree of inter-firm contact might well influence the existence of fads and fashions. (Of course, the publicity given to the activities of large companies in particular may also be a factor here. For instance, the involvement of companies such as United Biscuits, IBM, Courtaulds, Unigate in Coverdale training was reported in the Financial Times in April 1977). See Ganguin, 1977.

As regards the influence of one firm upon another and one firm say, acting as a field-leader, it is difficult to make any claims. Respondents' reports of the companies which had first taken up Coverdale conflicted, although in no instances were companies wrongly imputed to have used Coverdale. While the FDTITB might play a part in fostering the popularity it is unlikely that it does more than recommend:- while they would have a 'good word' for Coverdale "they wouldn't push us" according to the Coverdale Organisation. But it seems as though some spreading of Coverdale took place under the auspices of the Inter-Brewery Training Group of the Brewers Society and one man (now retired) who was impressed by the idea appears to have promoted a good deal of interest in it according to the Coverdale Organisation.

Two questions arise regarding Coverdale: one, if fads are to be found within the industry, why is this the case? If, as has been suggested by Cherns, (personal communication) schemes like Coverdale and Outward Bound enjoy popularity because they do not structurally affect the organisation but deal only with relationships between individuals, then Coverdale can be seen as an expensive but non-threatening attempt to be innovative. Indeed this type of change is 'safe' the organisation remains the same, giving support to Schon's (1971) idea of the 'dynamic conservatism' in organisations. It could also explain why British industry, at any given moment, seems to be adapting to changing circumstances while in retrospect it seems relatively unchanging. Of course, packages like Coverdale are much easier to convey verbally than social changes are. Because such changes are expensive and may, to some extent, involve following a fashion, their implementation might be bragged about - the invisible following of fashion would appear to have few rewards. Through using such 'packages' an underlying unwillingness to change (a condition which is not necessarily pathological!) may be disguised as 'innovativeness'. Perhaps the existence of fads points to an underlying awareness of malaise in organisations for which remedies are always being sought and that such programmes merely reflect a constant desire or need to improve performance in a low-growth era of the brewing industry. Or Ralph Coverdale might have been a most convincing salesman! Coverdale training, with its emphasis on 'the team' and 'the group' may have achieved popularity because it gelled with other ideas popular at the time, e.g. participation and 'working together'. The accent and focus on managers rather than shop floor workers points to a change in perception in companies as to the level of employees through which efficiency and profitability can be increased.⁸⁸ Thus, the Financial Times reports on the adoption of Coverdale by Watney Mann "ultimately it is Watney's hope that a more effective management performance will mean a better performance and profitability on

the part of the company." (Crisp, 1978). But the most plausible explanation is that in such a tight-knit industry where companies are facing similar problems, solutions adopted by one (presumably successful) company will be fairly rapidly adopted by others. In other words, the industry may be an imitative, rather than an innovative one.

The second question which arises, is why do organisations adopt the same scheme despite differences in management climate? While a great deal of effort and money is expended in the industry on distinguishing almost indistinguishable products, it is surprising to find such a degree of imitation. To some extent, it might be explained by the belief within an industry that it is different from other industries. Therefore, a programme which has apparently been successful in one company overcomes resistance otherwise encountered by new ideas. Or imitation might be explained because the company using it is profitable, or respected, or a well-monitored competitor - as one FDTITB respondent remarked "economic performance registers" as regards imitation. But given the claims of respondents that brewing was becoming increasingly competitive, differentiation rather than imitation would have been expected - or perhaps in the brewing industry confidence in one's company is not overwhelming. No definitive answers can be given to these questions but it is an area which would be most rewarding to research further.

ATTITUDES TO MANAGEMENT EDUCATION

No matter how many organisations and how much money is spent on management education and development, as noted earlier, its potential impact depends on the attitudes to it within companies. If there is a belief in, and commitment to, management education then this potential impact is high. If not, the possible contribution of subjects such as industrial sociology which might be part of the curriculum is much reduced.

It was to be expected that laudable sentiments would be expressed about commitment to management education, and indeed, in some cases they were: e.g. (small company personnel manager) "strong commitment from the Chairman down". But some thoughtful comments were made: (medium company training manager) "They /senior managers/ are sometimes cynical about the outcome of things but so am I. Our approach to these sorts of things /management development programmes/ is certainly not to go starry eyed." And a training manager from a large HQ remarked:

"on the management course, the assessment of standards, the assessment of performance is very difficult to be precise about any improvement which might take place as a result of that course. Certainly, our overall feeling is that peoples' performance does improve, otherwise we wouldn't do it."

However, a number of further comments on the topic of management education were made and demonstrate past and present attitudes to management training. Three companies, two small and one medium, mentioned that it is the people on the course rather than the course content which matters. It is the meeting of people from other breweries, from other industries and from a range of size of companies, which is valued so that common problems can be discussed or it can be seen how others cope with similar problems. Alternatively, it is the contacts which can be made and used in the future (when the need arises) which are valued (small company personnel manager) "in any management course, the pupils get far more out of bar and the social life, in mixing with other people - and I'm a great believer in sending people on courses with a catholic range of companies rather than brewing companies." It was particularly in the small companies that doubts were expressed about management education e.g. "I think it's got it's part to play but it's overrated....";

"I think it's worthwhile as long as you select the right managers to go. I think one can waste a lot of time, effort and money while training, or giving the wrong people... the majority of our managers have come up the hard way, so to speak, and achieved their position after many years of practical experience and really, a lot of them wouldn't respond to the sort of training that is given now."

Again the long-term nature of the investment in management training was mentioned by two small companies and the fact that having fewer managers made it more difficult to release them for training. The difficulty in evaluating the costs and benefits of management education is particularly important to the small companies which have fewer internal resources, and perhaps accounts partially for the slow take-up of management education by small companies.

One implication of this is that if it is through management education that social science ideas enter organisations, then small companies are disadvantaged in this respect. A point that will be returned to later.

In one medium sized company, it was obvious that the OC was undertaking management education and developing a long term strategy solely due to the intervention of HQ. Similarly in a small company "To be honest, if it weren't for the Board and the levy and so on which tends to jolly us along, I think we wouldn't do as much, although perhaps that's being a little unfair." Changing attitudes were remarked upon in one medium company:

"for the past 4 or 5 years I think senior management has taken an even more enthusiastic attitude towards training and development than they did before. Before we had some oldies on senior management and on the Board who, sometimes one felt, didn't quite say but wanted to infer that they didn't have any training so why should anybody else have it." 89

It was initially surprising to find that it was in three of the medium sized companies that the greatest enthusiasm for management education was expressed. However, on reflection it seems probable that large companies may have a more inbuilt acceptance of the existence and benefits of

training, but it is in the medium sized companies that this acceptance is now growing, while the small firms still have to reach this stage. The more institutionalised nature of the big companies' training might account for the less enthusiastic responses. It is also obvious, as will be seen below, that the ITBs have had a marked impact on the medium, and a growing influence on small, companies.

INDUSTRIAL TRAINING BOARDS

The Industrial Training Board (ITB) is one possible source of information on the social sciences. The brewing industry comes within the scope of two ITBs: the Food, Drink and Tobacco ITB and the Hotel and Catering ITB. The amount of contact with each varies according to the activities of the company, e.g. if there are few tied houses there will be less contact with the HCITB and more with the FDTITB. Many companies had staff on ITB and other committees such as the Brewers Society Industrial Training Managers Committee which liaises with the ITBs.

Less mention of ITBs was made in large than in small or medium companies where the respondents were more likely to have first hand contact with the ITBs due to less specialised and discrete management functions. Opinions of ITBs varied and seemed to depend on ITB personnel. Thus at one medium HQ the HCITB

"are often doing work and running training for us. They are more regular visitors to various areas of the group - they see their role rather more inspectorially than the FDTITB. It changes of course from time to time, depending who's there."

However, while all the medium companies spoke of close or strong contacts with ITBs, and mainly the FDTITB, small companies were often critical: "I think they're a dead loss - I would abolish them"; "the training boards don't get in touch with each other" so that "you end up with 26 views of

consultation". Only one small company made no criticism of the ITBs and, having only recently come within the scope of the FDTITB, found it to be "very, very helpful".

There are a number of possible explanations for the more critical views of the small breweries:

1. Exemption from levy⁹⁰ is by no means assured or easy to obtain and many small companies would find their resources stretched to add the responsibility of training to a manager's other duties.
2. As noted above, the benefits of management education are hard to evaluate or assess. This may also apply to other types of training where there is little immediate or visible pay-off, reducing the attractiveness of training expenditure.
3. Lacking specialists, the small company may be more uncritical of the courses it chooses and thus more likely, or more noticeably, than the larger companies to select the wrong ones.

For any of these reasons, small companies may therefore have a relatively smaller chance of picking up social science or any other new ideas.

Nevertheless, ITBs do appear to foster training as one Big HQ personnel manager put it: "I suppose like most organisations we have to be realistic and recognise that one reason we're doing some of our training is to make sure we don't have to pay out a lot of money to the training board." and thus, perhaps ITBs also foster the possibility of social science inputs. While ITBs may not be one of the major mechanisms through which social science is conveyed, it was seen as an important social science information resource by three respondents (two medium, one small). Also the ITBs have been involved in a variety of projects: as external consultants in the layout and design of a new training centre; as helping devise a programme to alter senior management attitudes to man-management and union relation-

ships, etc. Thus through involvement in various programmes within organisations, the ITBs potentially do have an important role to play in diffusing ideas.⁹¹

MANAGERS AND READING

There is one particular method through which ideas have traditionally been seen as diffusing - through printed matter. It is in this area that there was a somewhat striking finding: that managers in the brewing industry appear to spend little time reading work related literature.

The amount of time spent reading was a question which many respondents evaded, indeed only ten respondents gave a specific amount of time which they spent reading. Thus, there were a number of comments such as "hardly any time"; "very little time at work"; "mainly at weekends" etc. Of the ten who gave a figure, one said he spent the equivalent of one day per week on reading, two said four hours per week (one of these particularly needs treating with scepticism); six said between one and two hours per week, and one not more than one hour per week. Thus the average reading time per week for these respondents is about two and a half hours. Taking all the respondents together it seems unlikely that any more than half an hour on average per day is spent reading. These findings are even more striking when it is remembered that the reading of newspapers at work was included in these figures. Estimates of reading time do seem to bear some relation to the size of company. Three of the respondents in small companies said they spent very little time reading, but this was also the case in two of the medium OCs. It was at the HQs of the large and medium brewers that the greatest amount of reading time was asserted, although this was not always so. Three respondents claimed that they did their reading at home, at the weekend, or while they were on long journeys but in none of these instances would they give a figure. Very little can be said with any

confidence here, but it seems likely that half an hour per day is the maximum average time given to reading at work. This finding is not dissimilar to Stewart's (1967) who found managers spent on average only 2% of their time (approximately $\frac{1}{2}$ hour per week on reading work literature which originated outside the company (p.41). Blagden, on the other hand, in his study of BIM Library users found that average reading at work was 3.6 hours per week (1978, p.134), and average reading time outside work averaged four hours per week (1978, p.135). While Stewart (1967) reported only one manager read at home, Blagden goes on to note that asking open-ended questions on reading time "is not entirely satisfactory and can be regarded more as a measure of importance rather than actual time spent. (1978, p.135). Indeed some of the figures which were given may have been exaggerated. In two interviews, at least, the respondent later contradicted an earlier claim. It was obvious that some respondents were very defensive about their reading habits, there being a few comments on the lines of "I ought to read the Financial Times but don't..."; "I lead a very hectic life and I'm afraid I don't read - in fact, hardly at all, other than the Financial Times on a regular basis."

Both the reluctance to answer the question in detail and the defensiveness were perhaps explained by a comment from a training manager in a Big Six HQ: "I always feel a bit guilty if someone comes in and I'm reading... and if I'm reading the paper..." and his colleague said of the time he spends reading "I feel guilty always, so it tends to be snatched." The greater visibility of managers in small companies may in part explain why they spend less time reading. Similarly, in small companies where dual functions may be held, the material to be covered is greatly increased - this point being made by a personnel manager who had recently also been given responsibility for the safety side. The even increasing amount of information with which managers are faced has been commented on elsewhere:

Thus "The simple fact is that while the amount of material that could be read increases the time available for reading remains unchanged; the inevitable consequence of these two conditions is that a smaller and smaller proportion of what is written is being read by any individual." (Keegan, 1968, p.12).

Asked what they read in the way of newspapers and journals, a total of 115 magazines and journals were mentioned and 64 newspapers, this averaging out at somewhere between four and five journals or magazines and two newspapers per day, with only half the respondents reading a Sunday newspaper. This finding is similar to Aguilar's, "A typical reading load for a manager appeared to include the following: one or two newspapers, an equal number of general publications (e.g. Time, Newsweek, Fortune, Business Week), three or four trade publications that were skimmed (often just the table of contents), a bank newsletter or a private service to which the company might subscribe, and the occasional clipping of an article that a manager received from others, marked for his attention." (1967, p.88).

The results regarding newspapers should be treated with caution: the Times and the Sunday Times were not being printed when the interviews took place - eight respondents mentioned their absence - and the normal reading patterns may therefore be different. Of the newspapers which were mentioned the Financial Times was most popular - 19 respondents read it, followed by the Daily Telegraph, 14 respondents. Only four read the Guardian, two the Daily Mail and one each the Daily Mirror, the Daily Express, and the Morning Star! And two respondents said they read trade union newspapers. The brewing industry has its own daily newspaper, the Morning Advertiser, and nine respondents mentioned it. Three mentions were also made of receiving local papers. Only two respondents did not take a daily newspaper. There did seem to be some relationship between size of company and

number of newspapers taken, or at least at the HQs of large and medium companies, there tending to be three mentioned by these respondents (in six out of eight cases) while there was little difference between the OCs of the large and medium companies and the small breweries.

Of the 115 journals and magazines which were mentioned, the three most often referred to were: Personnel Management: 20; Management Today: 16; Incomes Data Services 16. Three publications were mentioned on eight occasions, Industrial Relations Review and Reports, Industrial Society and BIM Bulletins. And a further three publications were mentioned more than twice: IR Law Reports 3; CBI Review 4; Harvard Business Review 4. Otherwise there was a range of journals mentioned, some of which could be seen as academic: as noted above, the HBR 4; Sloan Management Review 1; British Journal of Industrial Relations 1; Bulletin of the British Psychological Society 1- Journal of Applied Behavioural Sciences; New Society 1. Altogether 33 different publications were mentioned. One curious feature of the journals mentioned is the disparity between journals read and institutional membership:

<u>Journal</u>	<u>No. of times mentioned</u>	<u>Individual Membership</u>	<u>Company Membership</u>
Personnel Management (IPM)	20	12	-
Industrial Society (IS)	8	-	17
BIM Bulletins etc. (BIM)	8	3	20
C.B.I.	4	-	14
Training (ITO)	2	3	8
Association of Teachers of Management	1	2	-

One factor to account for the disparity may be the infrequent publication of some magazines, so that they are less quickly brought to mind. Perhaps corporate membership and the automatic receipt of a journal means less interest and attention given to these than to a publication which is specifically requested and/or paid for personally. Thirdly, publications from bodies such as the CBI may not be read or distributed beyond board level. It cannot be assumed, however, that institutional membership or affiliation means that the institution's publications are read. Just as the information which enters organisations is sifted, so also is the information which is attended to.

While the number of journals mentioned by respondents averaged between four and five per person, it has to be remembered that the number of times per annum that these are issued varies. Of the most popular Personnel Management and Management Today are produced monthly, whereas IDS and IRRR are produced fortnightly, and Industrial Society, HBR, and BIM bulletins are produced six times per annum. If the publications are weighted for the number of issues that come out, it appears that just over one publication is read each week. Taken in conjunction with the newspaper reading, it seems that 30 minutes per day spent on reading two daily newspapers and approximately one journal or similar publication each week is reasonable.

In looking at the number of publications which respondents said they received there is some relationship to size of company. Small companies mentioned on average six publications; medium companies averaged just over seven; with the informed amateurs mentioning nine and 19 publications respectively. Large OCs averaged just over eight while large HQs averaged over 11 publications. Thus it seems that the larger the company, the larger the number of publications received, except in the case of the medium

companies - one of which was the HQ and the other was an OC, but an OC which did not rely on HQ for information. It is possible that it is the existence of an administrative centre, which does not have to cope with day-to-day fire fighting problems, but whose function is to monitor and provide information on a long-term basis which is important here. While by no means conclusive, those respondents in the HQs of large and medium companies which did put a figure to their reading time, tended to claim a comparatively long time was spent reading each week: one day per week, four hours per day, etc. But no claims can be made here, based as it is, on such a few cases.

It is extremely hard to judge what use is made of publications, but in a number of interviews some reference was made to "trade rags like the Morning Advertiser which I skim rather than read", quickly looking at the contents page; or "to be honest, I read the vacancy ads". Also publications compete with all the other written information that enters an organisation. "Managers generally do feel there is too much to read. The Training Officer - the amount of information he gets is tremendous - got to get it pruned down. There is quite a technique of learning to throw away quickly." Then again "Professional journals tend to be unread or saved up..."; "you tend to skip through rather than read detailed... and if you can't see an immediate sort of benefit, then you're not going to go into it too deeply at that time."

Similarly, evaluations varied of the publications which respondents received perhaps affecting how much time was devoted to it: "Incomes Data is the most valuable"; "Personnel Management - I spend very little time reading it. It's not ever been of any useful assistance in the past and I have been in the game for about 11 years." On the other hand the I.R.R.R. - "I find that quite useful in terms of background reading, I skim

it monthly just to see what's happening."; "again, the Financial Times gives you quite a lot of things to watch - I skim sort of labour pages - background." Personnel Management - "The articles are abysmal - the bulk of them are academics upping their production ratio - regurgitating old models." "I read the IPM magazine given a chance. I find it quite interesting - some of the articles are pretty good - I like the graphics particularly, I think they're extremely good." And at a small company "Personnel Management? The only thing that turns me on there is to look at the jobs that are advertised..." The usefulness of some reading may be dubious if, as Aguilar found with executives "They showed a tendency to continue reading publications that related to previous responsibilities and interests and to delay paying regular attention to the unfamiliar publications covering new aspects of their job." (1967, p.90).

Most comments were made about three publications: criticising articles in Personnel Management, praising the Financial Times coverage, and praising the I.R.R.R. as 'background reading'. Thus to make any clear statements about reading activities is difficult. Any data are suspect. Nowhere is it clearer that perhaps too many areas were being investigated - greater detail in this area would have been most interesting. However, the fault is perhaps inevitable, and indeed a consequence of exploratory studies. It is difficult for anyone to judge the amount of time spent reading. It is likely that some exaggeration occurs when individuals feel defensive about their lack of reading: in two interviews, the respondents initially asserted that a fair amount of time was spent reading: 2 and 4 hours respectively, yet in both cases, later statements contradicted these claims. In the latter case the respondent near the end of the interview said regarding his reading "from one week to another you very often don't have the time... Unfortunately, I tend to pack up here at six or seven and end up taking

them home and trying to glance through them at home." A somewhat different reply to his earlier confident statement of spending four hours a week reading.

Similarly, what does reading entail? 30 minutes a day for two newspapers and perhaps a quick look at a magazine is not a lot of time. Do glancing and skimming constitute 'reading'? It is certainly what quite a few of the respondents did. Mentions of journals, etc. means little without a corresponding appraisal of the individual's opinion of them. There is no way of knowing what, how and for how long attention is stimulated. Just looking at job vacancies means that the publication is at least opened and the opportunity to have one's attention caught is correspondingly greater. Thus it is impossible to gauge the importance of the 'academic' journals. Eight of these journals out of a total of 115 is not a great number. All but one of these were mentioned by informed amateurs, the other being mentioned in a large HQ.

One factor which might have some effect is the policy of the larger companies to pay subscriptions to a professional or other body for managers when it is related to their job, as this might raise the number of publications which individuals receive. It is common practice for the large but not the small companies to pay such subscriptions and might partly explain the greater number of publications mentioned in large companies.

COMPANY CIRCULATION OF INFORMATION

The activities of others in the company in information monitoring may be very important insofar as information is passed on to colleagues who have a presumed interest or brief to cover certain areas. Only one of the small breweries and one medium sized company had a formal provision for circulating clippings, publications or other information. Two of the medium companies, however, did have operating an informal practice of circulating information. In one large OC there was an informal yet no formal circulation. In all other large OCs and HQs there was a formal circulation of some type of information although the coverage varied. And in 3 HQs and 2 OCs there was also an informal passing on of information.

The information circulated varied from magazines, newspapers cuttings, mini-briefings, Abstracts and Indexes. In most cases, however, the circulation referred to distribution lists for journals, but the procedure is not necessarily so formal. In the small company the respondent explained how things were done: "Anything I get, I circulate in my own area - I tend to look through them basically, quickly, then I look out the things that look of interest, I then pass them out and my people look at them and then we pick out items we feel should be circulated to other people on safety and so on." But information circulation practices are not necessarily as comprehensive as some in OCs would want:

"Central personnel do feed out spasmodically background mini-briefing. The company is by no means as good as a previous company but it is quite good at circulating key articles, some of these come out from central personnel, some from other functions, depending on the subject."

The type of information circulated varied. In one HQ:

"they send this out every day, press cuttings. I can't say there is any definite policy. I mean I can't say that a chap in Management Services would be reading his journal or whatever it is and would say 'that's good' and send that to the personnel department - there's no guarantee."

In another company where extracts and clippings are circulated:

"but they are purely and specifically for the Board to do with the brewing industry. As for other information being passed on, this occurs very rarely. On occasions somebody will say this was interesting or if they want to make a point about we don't pay enough, they'll cut things out and send it through, but I'm not a great exchanger of ideas or anything like that."

But information circulation can be rather a one-way thing. One training manager said "part of my job is to pass on information" yet information is passed to him "occasionally, not very often - not within the group. I get more I think - apart from what I read myself - from our professional institutions or from outside sources, through training boards, from contacts in polytechnics."

So the type and amount of information circulated varies a good deal, and the mere presence of a formal or informal passing-on of information does not necessarily mean that much information is passed on.⁹² But to the extent that information flow is fostered, the larger companies appear to enjoy most benefit. However, it may be that a formal system of information circulation is a necessity in a large company where there are many different departments and where contact between people is likely to be more formal and possibly less informative. But in small companies, communication problems may be few, for instance: "out of 150 we've got about ten, if you like, middle and senior managers and that's it, it's not a lot of people and it doesn't take a lot of effort to get them together."

CONTACTS IN THE ACADEMIC WORLD

One respondent mentioned that information comes into personnel departments not only through written material but also from contacts with people in the academic and educational institutions.

First of all, polytechnics and local colleges. A good deal of contact takes place here in three main ways: courses run by polytechnics and through 'sandwich' students working in local companies (5 mentions); through the teaching/lecturing activities of some respondents (3); through the polytechnics carrying out research work or acting, however informally, as consultants (5). In all but two of the cases, contact was with a polytechnic which was fairly near the company. In those two other cases, a specific contact with one individual was pursued or maintained - contact was unlikely to take place in the event of their departure.

It was in the smaller companies that greatest contact with polytechnics was mentioned, or rather, greater stress was laid on the contact. The larger companies tended to have had more contact with universities but this was not always at a very high level. For instance, on the graduate milk round, through sandwich students, or in one case where students visited and worked in a company for a couple of hours each week. Elsewhere, access for research was sometimes mentioned, and another two respondents said "one gets a continuous stream of offers" from universities and business schools and "we don't, I think, find a great deal of use for their services." Only occasionally was reference made to consultants from universities. Yet in three cases, university contacts were being 'cultivated', as one respondent put it, and at the least the companies kept contacts up. On three occasions, personal contacts were mentioned and two respondents said contact with universities was only on the brewing (production) side. None of the small breweries mentioned contact with universities, and most mentions were made in the large companies, with only one large company - at both HQ and OC level - saying there was no contact with universities.

Predictably there appeared to be greater contact with business schools and management centres and this was much more evenly distributed among all the companies. Again, a good deal of contact was through courses, but for more advanced or senior level courses than those at polytechnics. Whereas in polytechnics employees were sent along to various courses which were already running, in Business Schools they seem to raise special courses, or help run in-company training programmes. Also prestigious Business School personnel were often asked to speak at company run seminars or courses. (5 mentions). As well as contact through courses, consultancy work was mentioned, both past and present (4 mentions). But the most frequent response to the questions was for the respondent to list the people in Business Schools with whom he had contact. The outstanding feature here was the number of professors who were mentioned: eight of the nineteen people named were professors. While the trend was for the large companies to mention professors and senior personnel, even in the small companies, contact with professors was mentioned. Again there was a tendency to mention local, or fairly local, institutions but LBS, MBS and BMC were mentioned most frequently and often by respondents not in the immediate area.

One other organisation, the Tavistock was mentioned: for courses, and in three cases in relation to consultancy work which had, or was then being carried out.

In addition to the names of academics and quasi-academics which were given in response to questions on contacts in universities, polytechnics etc. the names of a variety of individuals cropped up throughout the interviews. Thus some were social science information contacts, or friends, or consultants, or people who had been listened to or had their books read and with whom contact was later made, e.g. "I have contacts with a number

of universities and so on but it's on a personal basis". The list was impressive, the professors, authors of influential, or at least, popular books, top ranking individual consultants - independent and attached to organisations such as the Tavistock. A few of the individuals were from departments in universities other than business schools. Very clearly, it was the large HQs which mentioned the most names and who emphasised the status of their contacts. The familiarity with particular academics was pointed out in a few interviews.

Given the less than enthusiastic views which were expressed and noted above about academics, the use of, contact with and the seeking of contact with those outside the world of practice is curious. A number of points should be made: Firstly, there was a suggestion that some respondents were trying to impress; however, there is no reason to think the contacts did not exist or had not been made, merely that their relationship was exaggerated. Certainly, there was a degree of 'proprietaryship': "one of the people we have used quite a bit with a great deal of success is ...". Secondly, contact was most certainly being sought: "we are currently in a phase of cultivating a number of universities". Thirdly, contact was often sought at a high level: "I think I would normally go to the professor of any department I thought would ... if I heard that a particular department..." This direct approach was favoured in a number of companies and there seemed little hesitation in contacting authors of articles who were senior persons in business schools, etc. Fourthly, despite the number of criticisms made earlier about 'academics' (those who wrote in journals) only two criticisms were made of the organisations (and none of the individuals) in this context. This suggests that there might well be a split between general attitude and specific experience of encounters.⁹³ In part this would explain the number of contacts which were claimed, yet perhaps not why new, unknown academics

were contacted. Fifthly, the assumption in many of the respondents' attitudes was that it was those in industry who had to be 'courted'; academics were assumed to welcome contacts, to be willing to give assistance as and when necessary. Yet, at the same time, if prestige were obtained by businessmen through such contacts, it may in part be due to the academics' distance from the world of trade and commerce. Perhaps the practice of denigrating industry and those who work in it, has rubbed off on some of the participants. On the other hand, there may be wry amusement in collecting academics, and the most prestigious academics - professors - somewhere on the lines of Beauty and the Beast! Sixthly, the usefulness of senior academics was not often apparent. Naturally, there was the contact through courses, etc. but as regards specific instances of consultancy there was only one who was actually claimed to be carrying out research although a further two were mentioned regarding psychological testing in a brewing company (not counting the Tavistock here). It seems that contact with academics has been made as a result of what could be seen as normal activities for academics, giving lectures and talks, writing articles and books, and as organisers/providers of training courses. It appeared to be commercial consultants and institutions rather than academic consultants who were used. Certainly, the links exist but it appears that they are used, if anything, for information or advice and 'people to keep up with' - many of the respondents referring to their practices of keeping their eyes and ears open: in their reading, through maintaining their contacts. Finally, it may be that contact will increase. One respondent came into contact with one university which runs a "specialist information service... and what she did was to give me a list of telephone numbers of various people at various universities... her aim is not to send out a lot of papers but to give you the name of somebody who knows about a particular topic, and leaves it to you."

Regarding contact with bodies such as the Work Research Unit, the Industrial Training Research Unit - both of which have had some interest in the field of AWGs among other things - five of the respondents (all in HQs, 4 large, 1 medium) had heard of the WRU and two of these currently used the Unit. Unspecified use was made by one person although some of the company's activities had been written up by the WRU, while the other stated "they put out stuff that I always go through and call in any articles..." And it was these same two respondents who mentioned they had had some contact with the ITRU at Cambridge - one for selection and one for training. In three small companies use of ACAS's services was mentioned, and at one large HQ the respondent said that ACAS were currently conducting a survey for them. Other than the above, and the ITBs, no other mention was made of government bodies.

MANAGEMENT CONSULTANTS: Altogether 50 firms of management consultants were mentioned by name. Only ten organisations, accounting for 35 of these, were mentioned more than once: PA - 6 mentions; P-E 5; Urwick Orr 5; MacKinseys 4; Production Engineering 4; Coverdale 3; Industrial Society 3; AIC/Inbucon 2; Reed & Timpson 2; Binder, Hamlyn & Fry 2. 29 of all the named consultants were mentioned by the respondents in the Big Six HQs, 9 in the Big OCs indicating that it is HQ which 'brings in' the consultants. Five were named by respondents in medium HQs and only one in a medium OC and one in an independent medium company, five were mentioned by small companies. These figures are not complete for three reasons:

1. Some respondents did not or would not name the consultants they used, e.g. "you name them, we've used them"; "Well, we've used, I suppose, all the major ones from time to time." One respondent said he did not want to divulge the names of the individual consultants the company had used.

2. In a few cases the respondents could not remember the names of the consultants used in the past, and similarly, those respondents who had only moved into their present jobs did not know what consultants had been used in the past.
3. In one medium HQ it was a group of 10-12 individuals who acted as consultants: from academic to commercial consultant backgrounds. Thus, this company's mention of only two firms gives a misleading picture.

It is of particular interest to note that two respondents - both in London HQs (one large and the other a medium company) mentioned the existence of (separate) groups of people on whom they could rely for getting information. In one case, the group comprised 10-11 consultants with both commercial and academic connections who appeared, on paper, very well qualified to deal with any social science query. The other respondent spoke of an informal grouping of people from 35 of the top 100 companies in Britain - called Personnel Development - and by contacting someone in that group, he could be assured of getting pointed in the right direction. The existence of such comprehensive resources must give these companies quite an edge in obtaining information. And the mere fact that such resources exist gives pause for thought. (It is possible that having HQs in London facilitates such contacts while HQs outside London might be more aware of geographical and other distances and thus have less contact with other HQs, see Horowitz and Barker, 1974).

The existence of such close contact within the brewing industry and contacts across a wide spectrum of industries, illustrates that the industrial world is not always competitive. Help and assistance are available from numerous companies from a variety of industrial bases. The strength which these potential sources of advice, information and aid can give to individual companies must be considerable. The incredible

amount of contact also serves as a reminder that very few companies are directly in competition with one another and even where they are - as in the brewing industry - this competition may be confined to specific areas: products or markets.

Altogether, nine respondents named individuals who acted as consultants, these reflected the tendency noted above that the larger the company the more often they were mentioned (3 Big HQs, 2 Big OCs, 1 medium HQ, 1 medium OC, 1 small brewery). In the small company, the consultants took on the functions of a personnel department rather than acting as consultants in the accepted sense.

Overall, it appears that there is, or rather has been, extensive use made of consultants. Thus, it is likely that, if the employment of consultants fosters the input of new information, a fair amount of information has entered organisations in the brewing industry. However, this is to overlook the attitudes which are held regarding consultants, attitudes which may act to inhibit such information input.

Ten unprompted criticisms of consultants were made - indeed, the degree of antipathy was surprising: "they don't have to live with their mistakes"; "We get inundated with claims from all management consultants that they have found the answer to our problems." "There seems to be a fairly deep suspicion and well grounded suspicion of consultants that they only tell you about what you yourself already know of." On the other hand, the using of consultants was sometimes seen as a failure; "the use of consultants has been one form of abdicating responsibility. A 'well, let's delay it and see what the consultants come up with' approach." And as one director said: "I kind of regard it as a failure of expertise in the business if we have to ask outside consultants to help us." But this respondent went

on to say "at some stages in the development of an organisation it is sometimes easier to take advice from a well-respected external source even if you could have developed the same thing yourself." Despite criticisms, the use of management consultants may be politically desirable in the organisation as a neutral third party. However, as one manager pointed out, consultants tend not to bite the hand that feeds them, and their objectivity could be questionable.

Given the rather antagonistic attitudes towards consultants it seems unlikely that management consultants and any ideas they put forward are going to be enthusiastically received. Indeed, perhaps the opposite is the case: that any ideas put forward by management consultancy firms are more likely to be rejected out of hand or received with scepticism. The extent to which consultants have been used is surprising given the negative attitudes. There is evidence, however, that the brewing companies are developing their own internal resources in order to deal with the types of problems with which management consultants previously dealt. In a large OC it was said "if we have a big problem - we have all the expertise at HQ so that's really superseded a lot of it." And in one large HQ consultants were seldom used now because "we've got a fairly substantial and competent experienced and qualified back-up team at head office..." Nevertheless, despite these claims of developing their own resources, in three out of the four instances this was stated at OC level. At the HQs, this was only once mentioned - and by a company which did not appear to have ever made as extensive use of management consultants as the other Big Six; and there were no comments whatsoever about reducing the use of consultants. It seems that rather it has been HQ policy to reduce the reliance of OCs on consultants and increase their use of Group resources - which in turn implies greater central coordination of policy and practices.

The respondents were asked what work the consultants were called in to do and although the information was limited, some idea of the range can be obtained. Training and management development of one form or another was one of the most frequently mentioned areas - 8 mentions; job evaluation was another - 6 mentions; work study/payment systems 6 mentions; financial reorganisation 3 times. There were a variety of infrequently mentioned topics: company identity, the reorganisation (one mention) and the development of a brewery, and computerisation (one mention). A number related to industrial relations, e.g. union recognition, IR audit. But a number did seem more likely to have had a social science input: changing management attitudes; counselling for managers; workers involvement and job enrichment; staff attitudes to customers, etc. There was quite a range of issues for which management consultants were called in. It is, perhaps, unrealistic to expect organisations to have the internal resources to deal with such a medley of problems. And this probably also accounts for the absence of 'special relationships' being built up between company and consultant, because one firm is likely to be good at one thing, while another has the reputation in another field.

Very seldom - in fact only once - was a management consulting firm the place where respondents would go for social science information. It was always to individuals - who may or may not be consultants that the respondents referred regarding specific expertise. And it is perhaps the specialist who is likely to have greater impact on organisations: less expensive, less threatening to both individuals and the organisation. Depending more on individual goodwill - his more precarious position may act to his advantage. However, the lukewarm interest in social science means that it would be only too easy to exaggerate the importance of any input from consultants and that includes individuals who are specialists. The role of consultants in diffusing social science information does not seem very great.

THE RESPONDENTS

The respondents were gatekeepers in two senses. Firstly, in respect of the information which I could obtain about the brewing companies; and, secondly, as social science information sources (insofar as they dealt with my enquiry). It is worthwhile, particularly with regard to the latter gatekeeping role, to look at the backgrounds, experience and qualifications of the respondents to discover what contact they might have or have had with the social sciences.

While one or two were rather reticent about their past, most gave general outlines of their careers. Of the 27 interviewed 10 were graduates, and two were professionally qualified. (Two of the graduates had Masters degrees: one in Manpower Studies, one in Economics (on labour wastage).) Four of the respondents had economics degrees, two of whom mentioned sociology as part of their degree, there was one politics and one psychology graduate. The other four had degrees in Geography, Mathematics, History and Engineering.

Graduates

Number interviewed	27		
Number of Graduates	10	Subject:	Economics 4
Professional qualified 2			Politics 1
(another was an			Psychology 1
engineer with a degree)			Geography 1
			Mathematics 1
			History 1
			Engineering 1
			—
			10
			==

Nine of the 15 respondents in the Big Six companies - at both HQ and OC level - were members of, or associated with, the IPM. In the medium sized companies, three were members or associates, and there were four non-members. In the small companies, none of the respondents were IPM members. Altogether then, 12 were members or associates and 15 were not members of the IPM.

IPM Membership

	<u>Large</u>	<u>Medium</u>	<u>Small</u>
IPM Members or associates	9	3	-
Not IPM Members	6	4	5
Graduate recruits required to obtain IPM qualification	3	-	-

It is interesting to note here that only three companies (all large) mentioned the need for graduate recruits to obtain the IPM qualification. In one big company, the respondents suggested why there is "not a great deal of enthusiasm about the IPM"... "Possibly it's because a lot of our senior personnel people have achieved their positions in the personnel function having come from other functions within the business..." and "probably the traditional manager who has trained through the IPM structure isn't the guy who can do the job today." Similarly, a respondent from another of the Big Six HQs, explained why membership of the IPM was not specifically encouraged: "I think the IPM hasn't quite established itself as the main controlling professional body of personnel." Yet on the other hand, when junior members of personnel departments have IPM qualifications and senior members do not, they "have to satisfy the people below who have the qualification that you have something to offer in terms of experience." (medium company management training and development manager).

Of the other organisations of which respondents were members - a wide range from the British Industrial and Scientific Films Association to the Mine Ventilation Society, were mentioned - only three received more than one mention: the BIM - 3; ITO - 3; and the ATM - 2. Overall from the 27 respondents, 28 individual memberships were mentioned, including the IPM.

Respondents Organisational Memberships

		<u>Large</u>	<u>Medium</u>	<u>Small</u>
IPM	12	9	3	-
BIM	3	2	1	-
ITO	3	1	1	1
ATM	2	-	2	-
IoD	1	1	-	-
BGA	1	1	-	-
IME	1	1	-	-
CIBS	1	1	-	-
Mine Ventilation Socceity	1	1	-	-
British Ind. & Sci. Films	1	-	1	-
Duke of Edinburgh, Standing	1	-	-	1
IMS Conference	1	-	-	1
	<u>28</u>	<u>17</u>	<u>8</u>	<u>3</u>
	<u>=</u>	<u>=</u>	<u>=</u>	<u>=</u>

It was extremely interesting to look at the past jobs of respondents. Despite a number of mentions in the interviews of colleagues changing companies, only one respondent said he had been in another brewing company. Eight respondents had a varied job experience background ranging from jazz musician, engineer, sales representative. Cross-functional moves within the brewing company had been made by nine respondents.

Cross functional moves of respondents within the company

Nine out of 27 respondents had made cross functional moves.

Work Study to Personnel	2)
Accountancy to Personnel	2)
Line Manager to Personnel	1)

continued over/

Training to Personnel	2	)	
Sales to Training	1	)	Found equally in the
Management Services to Personnel	1	)	three sizes of company

Three had professional backgrounds: one in engineering, two in accountancy. The disparate origins of the respondents perhaps accounts for the lukewarm attitudes to the IPM.

There are three points which should also be made about the respondents' experience:

1. Five of the respondents had, at different times, been employed by very large companies: Unilever, Goodyear, Burmah Oil, I.C.I., Proctor and Gamble, Plessey, BSC, Vauxhall Motors. And three of these were now in organisations which were very small or in one case, relatively small. However, the extensive in-company training which three of the respondents had received in these large companies should be borne in mind.
2. Three of the respondents (two of whom are including in no. 1 above) had been employed in organisations noted for their innovative approach to work organisation: ICI, Mullard, Proctor and Gamble, Rowntree MacKintosh.
3. There was a large number of references to the Army or colonial services. While two of the respondents had been in one of these services for an extended period of time (both in medium sized companies), two other mentions of the armed services was made in large companies. One, to the effect that after the war, senior levels of Army officers were "ready recruits for senior management in the (very traditional brewing) industry and old habits die hard." And the other mentioned that potential management recruits not only included university and polytechnic graduates but were sought from "people on short-service commissions." Indeed, the respondent

mentioned a link between the company and a polytechnic in helping with service demob. groups - 'N.C.O.'s and officers who are going through a 26-week training programme before they go into industry."

Taken together the emphasis on the practical, on experience rather than theory, the number of comments on the armed services, the views about the IPM, the late establishment of some personnel departments, the traditional nature of the industry, the attitudes of the small companies to Training Boards, etc. this is, it seems, a stereotypical view of British industry. Yet it is one that strangely contrasts with the backgrounds of some of these respondents in multi-nationals and in such a variety of different jobs and experience. And it is a picture, as will later be suggested, that is perhaps being clung to, in the increasingly competitive world of brewing where the practices of the past are being eroded by the overwhelming dominance of the large brewers.

To return to the respondents. The high number of cross-functional moves and experience in different industries and occupations implies that identification with the professional personnel manager is unlikely to be high. Perhaps it is the lack of qualifications which results in the widespread tendency to deprecate 'theoretical' training and favour the practical.⁹⁴ At the same time, however, it may be that the lack of formal qualifications acts so as to inhibit the flow of information associated with professional personnel such as, perhaps, the social sciences. (See Watson, 1977).

However, contact with multi-nationals and organisations who had extensively used the social sciences might act so as to foster the flow of social science information through greater awareness of its possible uses, an aspect which will be examined in greater detail when attitudes to the social sciences are investigated. But it is worth noting that the

majority of those who had 'chequered' careers were employed in small companies, whereas in the medium-sized companies, 5 of the 6 respondents had only had one other employer. The large companies, both at HQ and OC level, having a variety of career patterns, although some would only mention the most recent employer and the data here are therefore less reliable. It is possible that the large companies are more likely to recruit specialists than smaller companies who might need more "all-round managers".

ASPECTS OF THE PERSONNEL DEPARTMENTS

While the respondents may have been 'gatekeepers' on social science information, many aspects of the departments in which they work will also be of interest. For instance, are there others in the department who might pick up and possibly pass on social science information? Are there many in personnel departments with a social science degree? What organisational memberships exist within the department and what type of contact is made with these organisations? Similarly, the information coming into the company as a whole is relevant. By asking about company memberships, some idea can be obtained about the information available within the company. Thus, in the pages that follow the qualifications of others in personnel departments and their organisational affiliations will be looked at. Also the conference and seminar attendance of those in personnel departments will be examined as will the company membership of organisations.

The results of the attempt to find out about the qualifications of others in the personnel department were a little disappointing. First of all, remarkably little was known about colleagues' institutional affiliations and activities. Secondly, having a degree was not necessarily a salient

factor in the department - given the 'practical' emphases, hardly surprising but it meant that the information was rather patchy. Thirdly, knowledge of the activities of subordinates or peers is likely to be greater than that of superiors, so the data probably are more accurate for the middle and lower levels in personnel departments. Fourthly, talking to one person from a small personnel department is not equivalent to an interview with one member of a large and functionally divided personnel department.

While 34 graduates were mentioned altogether 10 of whom were the respondents themselves, this is undoubtedly not all the graduates. Of this 32, over half had degrees which might include some social science input. There were 3 Masters Degrees and one Ph.D. mentioned - all of which were likely to have included some contact with the social sciences. Nine economics graduates were mentioned (two of these being economics and sociology); four business studies - likely to have some social science input though not perhaps identified or referred to as such; three psychology graduates (excluding one Ph.D. in psychology) who were again likely to have social science input which related to industry.

Thus while over half of the graduates had degrees which would probably contain a social science input, social science has to be widely interpreted - it does not necessarily refer to or include sociology; only two of the economics graduates specifically mentioned sociology. It seems likely that the level of input on sociology and in particular, industrial sociology, is not high. While no assumptions can be made about the content of courses, some indication of the various approaches to the teaching of industrial sociology can be obtained from Deem's (1979) work, and it is likely that the level and amount of sociology input which those in personnel departments have received is not great.

ORGANISATIONAL MEMBERSHIPS WITHIN PERSONNEL DEPARTMENTS (including the respondents)

In only four companies was there no connection with the IPM through the personnel function at HQ or OC level (three small and one medium sized company). There was no stated connection with the IPM and one Big Six HQ and no knowledge of an IPM connection in one of this company's OCs. Connections with the Institute of Training Officers were mentioned eight times - this might well be underestimated by those who had little direct contact with the training function. The Institute of Work Study Practitioners received four mentions (two small, one big HQ and one Big OC) as did the BIM (two Big OCs, two medium). Other Organisations mentioned were : IPA (two - one Big, one medium); ATM (two medium - one of the respondents being on the executive committee); BACIE (two - one Big, one medium); National Institute of Industrial Psychology (one Big); Business Graduates Association (one Big); EEF (one Big); Institute of Management Services (one Small); Institute of Production Engineers (one small) and one Chartered Accountant (one Big); and one ICMA (Big); and the Institute of Directors (one Big OC). As can be seen a number of these bodies are professional associations: IPM: Institute Work Study Practitioners: Institution of Production Engineers: CA, ICMA, and membership is therefore not necessarily maintained for the publication or activities of the body.

Table over/

Firms' stated connections with organisations within Personnel Departments
(including the respondents organisational memberships mentioned earlier)

	<u>Large</u>	<u>Medium</u>	<u>Small</u>
Institute of Personnel Management	13	4	2
Institute of Training Officers	4	3	1
Institute of Work Study Practitioners	2	-	2
British Institute of Managers	2	2	-
Industrial Participation Association	2	1	-
Association of Teachers of Management	-	2	-
BACIE	1	1	-
National Institute of Industrial Psychology	1	-	-
Business Graduates Association	1	-	-
Engineering Employers Federation	1	-	-
Institute of Management Services	-	-	1
Institute of Production Engineers	-	-	1
Chartered Accountant	1	-	-
Institute of CM Accountants	1	-	-
Institute of Directors	1	-	-
	<u>30</u>	<u>13</u>	<u>7</u>

As can be seen, there is a clear disparity in the amount and scope of organisational affiliations which again points to the advantages which larger companies, with their greater number and variety of employees, within personnel departments enjoy.

CONFERENCE AND SEMINAR ATTENDANCE

The use that is made of the associations is difficult to assess. By asking respondents what conferences and seminars they and others in the department attended it was hoped to find out what uses were made of these bodies. Again, this depended on recall and in a number of cases the respondents either didn't know or couldn't remember. It was certainly not a topic that seemed to be discussed. Also the name of the body organising a conference or seminar seemed extremely hard for some respondents to recall.

However, some surprising aspects emerged. While 15 companies had claimed membership of the IPM (another four mentioned some connection), only seven mentions were made of attendance at meetings or conferences. And two of these seven mentions were made by companies which had no connection with the IPM. Only one respondent (out of eight memberships) mentioned attendance at an ITO conference. Despite heavy company membership of the IS only four respondents (one non-member) mentioned seminars. Both ATM members attended their conferences and meetings. BIM meetings were mentioned by four respondents, two of them being non-members. Only one organisation for which no membership was claimed was mentioned for conference attendance - the B.P.S.

Seminar and conference attendance

	<u>Number which attends</u>	<u>Membership/ association claimed HQ or OC</u>	<u>Membership not claimed and attended</u>
IPM (5 large)	7	19	2 (small)
ITO (small)	1	8	-
IS (3 large)	4	17	1 (medium)
ATM (medium)	2	2	-
BIM (2 large)	2	13	2 (medium)
BPS (1 large)	1	-	1 (large)

While there was quite a range of organisations to which the respondents belonged, the breadth of this was particularly attributable to two respondents - one in a Big HQ, one in a medium OC - both of whom had wide interests. It is, therefore, hard to make any claims for the incidence of institutional membership noted above other than to comment that fewer organisations were mentioned by the OCs of the Big Six than any other respondents. One practice ought to be mentioned here which might affect the number of institutional memberships. All the Big Six companies paid the fees of individual managers to a professional association or institution (which, it was normally stipulated, had to relate to the job!).

While membership was encouraged in two medium breweries, subscriptions were only paid in one. No small breweries mentioned paying subscriptions. There do appear to be a few organisations which are more popular with respondents and personnel departments in general: IPM, ITO, Work Study, BIM, BACIE, IPA, ATM. (For an outline of their size and publications, see Chapter 4 on Organisations.)

COMPANY MEMBERSHIP OF ORGANISATIONS

The membership of companies to organisations will also influence what information is received. Membership of the BIM was the most common - only two small companies not being members. The next most popular was the Industrial Society - only one small brewery did not have any association with it, although three of the OCs of the Big Six and one of a medium company, were not aware of HQ membership. The CBI was mentioned 14 times, but it was particularly noticeable that only one of the medium companies, an HQ, claimed membership. Also the two small companies which did not have BIM membership, did have CBI membership, suggesting some displacement here. While the IoD was mentioned occasionally in all sizes of company, very little can be drawn from this, so few of the respondents themselves being directors. As IoD membership is individual rather than company, it is likely that membership is greater than mentioned in the interviews. Only two mentions were made of the IPA - in one case, a colleague was Deputy-Chairman. Interestingly, in some cases, companies had very close contacts with organisations through colleagues' participation as board/council members, conference speakers and course designers for such bodies. Thus two mentions of CBI involvement at regional level were made (by one small and one medium company). Five mentions were made of involvement with the IS - as speakers, on the Council, etc. and one mention of the IPM speaker and one of IPM local committee members. (see table p.347)

However, regarding company membership of organisations, small companies have noticeably fewer than other sizes of company. Despite most respondents or their companies being members of the IPM, BIM, IS - very few actually said they attended meetings or conferences. This aspect cannot be viewed in isolation: the use of consultants and what material is read, both reflect the contact with, or opinion of, the various bodies. For two organisations have acted as consultants to breweries. The IS was mentioned by three respondents from two Big OCs, and one small company, and the East Midlands Engineering Employers Association mentioned by one of the Big Six HQs, (not the same one in which the respondent mentioned membership of the Engineering Employers Federation). Thus it appears that the IS in particular is an organisation with which there is a good amount of contact in the brewing industry. It is curious, therefore, when reviewing the reading matter of respondents that only 8 people mentioned the IS journal, compared with the 17 who claimed company membership. Similarly, despite 20 companies (at HQ or OC) being BIM members, only 8 mentioned reading the publications of the BIM, yet 16 read Management Today. And while only 12 respondents claimed individual membership of the IPM, 20 respondents read its journal, Personnel Management (19 having claimed the membership of someone in the department). Similar disparities were to be found regarding the Institute of Training Officers where 8 claimed membership and only three mentioned the journal 'Training'. (see Table p.347)

When all these claims are compared we find that the following points emerge: Firstly, despite high membership of the BIM and IS, half or less of these members mentioned reading the organisation's literature; yet all of those which mentioned some contact with the IPM read that body's journal. But if an attempt is made to gauge the impact of the three most mentioned bodies; the IPM, BIM, and IS it seems likely that the IS is the most

influential through its courses (7 mentions), though the involvement of company personnel in its activities (5 mentions), through its consultancy service (3 mentions), and through its conferences and seminars (4 mentions). While the IPM enjoys greatest popularity in its publication, Personnel Management (20 mentions) it offers no consultancy service, and surprisingly had only 3 mentions of its courses, and only one respondent being involved as a speaker, and one as a local committee member, yet 6 respondents claimed to attend its conferences or seminars. Similarly the BIM offers no consultancy service, and no involvement in its activities was mentioned but 3 mentions were made of its courses and 4 of its seminars/conferences.

Organisations membership, association and uses

<u>Respondents:</u>		<u>IPM</u>	<u>BIM</u>	<u>ITO</u>	<u>IoD</u>	<u>ATM</u>	<u>BGA</u>	<u>IME</u>	<u>CIBS</u>	<u>MVS</u>	<u>BISFA</u>	<u>DESC</u>	<u>IMS</u>	
(17)	Big	9	2	1	1	-	1	1	1	1	-	-	-	
(8)	Medium	3	1	1	-	2	-	-	-	-	1	-	-	
(3)	Small	-	-	1	-	-	-	-	-	-	-	1	1	
--		--	--	--	--	--	--	--	--	--	--	--	--	
(28)		12	3	3	1	2	1	1	1	1	1	1	1	
=		=	=	=	=	=	=	=	=	=	=	=	=	
<u>Personnel Departments:</u>							<u>IPA</u>	<u>IPE</u>	<u>IWSP</u>	<u>EEF</u>	<u>BACIE</u>	<u>ICMA</u>	<u>NIIP</u>	<u>CA</u>
(28)	Big	13	2	4	1		2	-	2	1	1	1	1	-
(12)	Medium	4	2	3	-		1	-	-	-	1	-	-	1
(6)	Small	2	-	1	-		-	1	2	-	-	-	-	-
--		--	--	--	--		--	--	--	--	--	--	--	--
(46)		19	4	8	1		3	1	4	1	2	1	1	1
=		=	=	=	=		=	=	=	=	=	=	=	=
<u>Companies:</u>							<u>CBI</u>	<u>IS</u>						
(59)	HQ or OC level		20		6		2	14	17					
<u>Use made of organisations:</u>										<u>BPS</u>	<u>EMEA</u>			
	Seminars/conferences	7	4	1		2			4	1	-			
	Consultancy	-	-	-		-			1		1			
	Journal (*not incl. 16 who read Management Today)	20	8*	3		-			8	-	-			
	Courses	3	3	-		-			7	-	-			
	Company personnel involved in:	2	-				1	2	5					

When the findings from the publication section are recalled, it can be seen that these three organisations (BIM, IPM and IS) have, between them and individually substantially covered the topic of AWGs, so that a fair level of knowledge on the topic can be assumed. (On this, see p.389) Overall then, there are a variety - if a somewhat limited variety given the number of organisations in existence which act as information providers/ resources - of information sources used by companies and personnel departments. Most of these organisations have given some coverage to the notion of AWGs so that again, there seems no reason why knowledge or at least awareness of the topic should not exist.

Resume: To summarise this section so far, it seems that HQs are more important than OCs as gatekeepers regarding social science due to the monitoring of, and watchful eye kept on, OCs. It did not appear to be through the recruitment of graduates that social science enters organisations. While there was quite a commitment to management education - at least in financial terms - the somewhat negative attitudes to ITBs, the emphasis on experience rather than training suggest that the impact of management training may not be great and the potential impact of any social science input reduced. However, the more positive attitudes expressed in medium companies and the (perhaps) inbuilt acceptance of management training in larger companies may mean that management training has a larger role to play than was expressed. Less than half the respondents were graduates or members of the IPM. A number of respondents had experience in large companies, some of which were noted for an innovative approach to work organisation. In turn quite a few references were made to the Army and colonial services.

As regards organisational affiliations, the advantages of size become apparent here, the small companies being disadvantaged, as in the case of management education. While there was a range of organisational memberships and associations, the use of these organisations remains unclear. However, three organisations - the IS, IPM and BIM seemed to be the most important as far as the respondents and their departments were concerned.

Managers read little but the amount of time spent reading increased with size of company as did information circulation within companies, and claimed contact with academics. The contradictory findings regarding academics - denigrated generally yet sought out individually was interesting and the collecting of professors worth bearing in mind. Management consultants were used extensively in the industry but it seems unlikely given the antipathy which existed towards them that they were an important channel for social science diffusion. However, in a few cases management consultants had been involved in changes which could include a social/behavioural science component and any claims as to their role should, therefore, be made with caution. The presence of two groups of consultants - used by two London HQs - should also be borne in mind. The high level of information available through these groups and the awareness of their existence is important. It may be that it is such contacts - outside the brewing industry - which are important in passing on social science ideas.

THE BREWING INDUSTRY INTERVIEWS

PART II

INTERFIRM CONTACT: Brewers Society

Inter-firm contact is potentially an important factor in the diffusion of ideas and practices (see Baker, 1959) and the extent to which it takes place may be reflected in the awareness of changes or innovations tried in other companies.

One of the most interesting features of the brewing industry is the great amount of inter-firm contact. This contact is fostered by the existence of the Brewers Society - based in London with a number of regional 'Brewers Associations'. The Brewers Society has a number of committees concerned on the personnel side with topics such as training, employment, IR, health and safety. Serving the various committees are advisory committees. For instance, the Advisory Committee on Employment of the Brewers Society comprises a person from each of the regions and the big companies, so that at full strength there are about 16 or 17 people. This committee meets once per month and advises the Employment Committee which is bigger and which comprises senior people such as Personnel Directors.

At regional level (there are 7 regions) there are committees on these same aspects which feed in to the national Brewers Society, all the local associations being represented in some shape or form in the Brewers Society Committees. The importance of the regional associations varies according to the activities it undertakes. Thus, the Yorkshire Brewers Association has had greater impact on its members because it has been concerned with establishing guidelines for pay settlements for the brewers within the area, whereas in other brewing associations this function has been abandoned.

In 22 of the 24 companies visited, either the respondent or a named person within the company was, or had until recently been, on one of the Society's committees at local or national level. There were three local associations with which the companies visited were variously involved: the Yorkshire Brewers Association, the North East Brewers Association and the North West Brewers Association. Only one respondent had contact with two Brewers Associations, his company's regional boundaries not coinciding with those of the Brewers Society. At a regional level three of the companies came under the NWBA's scope, 8 came within that of the YBA, and 5 under the scope of the NEBA.

According to the respondents, the Brewers Society serves a number of functions: as an employers' association where subjects of importance to the brewing industry are discussed, which can feed information to the CBI and which liaises with various bodies such as the ITBs on behalf of the brewers. Importantly, the Brewers Society acts as a forum where information is exchanged, giving members knowledge of what's happening in breweries outside their area as well as building up contacts between brewers: as one manager put it "we meet out of those meetings ... I was on the Training Committee for a while ... but on the basis of that one has built up friendships." One aspect of the Society's activities was mentioned a few times: recommendations for wage settlements "they issue guidelines but they are very much ... they're not in any way mandatory, they're just recommendations. We, for example, don't altogether approve of the level which they recommended ... we reckoned it was being somewhat inflationary so we will do our own thing, so will all the others."

The local Brewing Associations have similar functions but relate more to local conditions. Again the exchange of information, the interchange of ideas was mentioned so that they discuss "anything and everything really". The contacts made with opposite numbers in other breweries and the establishment of informal contacts seem to be a major attraction. At local level, the level of wage settlements is also discussed, and in some areas, such as Yorkshire, regional agreement with the unions is sought before specific negotiations at plant level proceed.

While no strong assertions can be made it does seem that the local Brewing Associations are seen as relatively more important to the medium and small brewing companies. The large companies were rather lukewarm regarding local associations possibly because they are more tangential to the company as a whole, and it was the large companies who spoke of the benefits to the small brewers from the Brewers Associations which they saw as being geared to the pace of the smaller companies. Certainly it seems likely that the great disparity in size of breweries does not help the reaching of common and mutually benefitting perspectives. To the extent that local brewing associations have reached some agreement say, on wage guidelines, this may well cause problems within the large companies by causing disparities between the company's regions on pay and conditions. Thus there is likely to be some conflict between the local associations and the HQs of the Big Six. "Yorkshire Brewers agreements cause problems just within the company context, let alone the parent company..."

When asked for their opinions of the Brewers Society and the regional associations, most comments were favourable. Again, it was remarked that there were "benefits from attempting to maintain some sort of conformity in pay settlements". Similarly at the local level there is "an interchange of ideas and it also makes sure that you're not going to get sold down the

river by another company." Indeed, for the small brewers especially the local association seemed most important in relation to wage negotiations. So if the YBA for instance should fail to reach agreement on pay it is likely that its importance will diminish correspondingly. Within the medium sized companies, the Brewers Society was seen to be influential, and a good focal point, so much so that "if it wasn't there, there would have to be some other organisations if there was to be any togetherness." Again, it was on the IR side that emphasis was made "The most useful end result to be quite honest, is at wage negotiation time, when we are then considering as a body the sort of things which are going to be asked for and the sort of things we are likely to allow or not allow and they relate very, very strongly to social trends, like a shorter working week, shift patterns - we discuss those sort of things."

In the large companies at both HQ and regional level respondents' comments whilst still favourable were slightly less enthusiastic. Some found the meetings 'boring' as they often covered a lot of 'unexciting subjects' or "we find that time spent at Brewers Society is not always productive." One recurring theme was the growing competition between brewers so that they "couldn't afford to be too cosy". Discussions, therefore, were in "guarded terms" because they were in competition with one another and they were "not encouraged to be open" so that one director stated we "all lie to each other." It is most interesting that in none of the medium and small companies was competition between brewers mentioned with respect to the Brewers Society or Association.

It is possible that the perception of competition was related to the position in the managerial hierarchy of the respondent, perhaps there really is growing competition between the large brewers. Yet a number of respondents referred to a 'Think Tank' of Personnel Directors of the Big Brewers which meets informally 3 or 4 times a year "it's a get together, it's a swapping of whats going on and of course, it's off the record stuff." The existence of this Think Tank belies, at least at one level, the growing competition felt by those of managerial level and would seem to reflect one of the traditional aspects of brewing - its friendliness - an aspect which was stressed in a number of interviews. The Think Tank is very much at top level and there was little known in detail about its activities by the respondents. That its existence was not publicized was evident through a couple of comments, one respondent exclaiming with some asperity when he was asked about it "your information is very good!" and he went on to say:

"There is... well its not a Think Tank - all it is, is that the Big Seven meet - oh quarterly... its very informal... and there's an unwritten rule that really whatever you hear at these sort of thing you don't necessary use but I don't think that really applies." (laughter)

At the very least, the existence of this Think Tank, for want of a better term, does mean that as regards information exchange between brewing companies, the large companies enjoy quite an advantage. But it is hard to evaluate the amount of competition - the bringing in of non-brewing personnel in some large companies, the growing competitiveness for areas suggests that some observers' comments on brewing being very competitive are correct. Nevertheless, there is at the same time a lot of informal contact.

Competition may of course vary so that, for instance, there is less competition with regard to production and more in relation to marketing. (Even although on occasion, joint marketing of one product may exist). For with the "increasing unreliability of markets" (Galbraith, 1969, p.44) companies may concentrate competitive effort in this direction rather than

toward the more easily planned sphere of production but "the firm must take every feasible step to see that what it decides to produce is wanted by the consumer at a remunerative price." (Galbraith, 1969, p.41). Some support for this is given by at least one brewing company which on setting up a huge automated brewery very much encouraged visits by other brewing companies. However, as will be seen below, as regards work organisation changes which, after all, will have effects on production and its predictability, there seems to be a lack of information exchange implying again the tacit acceptance of competition in the area.

While one person said that the topic of work organisation changes would come up and be discussed at Think Tank meetings, there was less certainty about this at the brewing association meetings. So work organisation changes and experiments would "not specifically" be discussed or at least "not so much"... "although one is kept in touch with the problems that people are having elsewhere and the solutions they're coming up with." One respondent said that such changes might well be discussed, yet a job enrichment programme introduced into his company was not discussed at the local association because "we didn't think there was any need to. The outside body we wanted to discuss that with was the organisation whom we brought in to advise us."

There was a suggestion of wariness in talking to people from other companies on such topics although one respondent asserted that a topic such as work organisation "always comes up because it affects methods of payment." So if a change such as job enrichment is implemented and it does not affect payment or methods of payment it will not 'come up'. This implies that changes which do affect payment methods will be discussed. So it follows that in schemes such as AWGs where changes in payment methods are likely, that the topic will come up for discussion. However, no mentions were made

of the changes involving work groups which had or were being tried in two breweries, suggesting that the subject had not been discussed outside the company at all, whether at the Brewers Society or not.

Contact through the Brewers Society and its associations is only a small part of the contact that takes place between brewers. There is a great deal of contact on a day-to-day basis which, while it might arise from contact through the Brewers Society, is much more informal. It is the Brewers themselves, the professionals who produce the beer, who have the greatest contact - through the Brewers Guild as well as informally. They appear to see themselves as something of a race apart and the constant contact is apparently "a kindred spirit sort of thing." Nevertheless, there is a great deal of contact between breweries in other functions. Contact seems to vary from company to company but this may merely reflect the practices of the respondent: e.g. "personally, my contact is limited." As one newcomer to the industry remarked:

"What amazes me is how much contact there is between brewers... when I first went to the Brewers Society there was invitations to visit three breweries and talk about shared problems. It's a very sociable type of set-up, environment - I don't know how you find it, but it seems to me, and the other thing that strikes me is that they actually do exchange almost everything. If you wanted to get a salary fix on... from the chauffeurs, to personnel... maybe not at director level, but certainly you could get it, you would just contact your personnel man and... it wouldn't take very long to get..."

Contacts seem to originate at the Brewers Society and are built up on a personal basis from there, thus "the openness of contact varies." Also, the use that is made of contacts varies from a lukewarm "contacts are there if necessary" to "find contact is superb - if we need to know anything, see anything, then we ring up and off we go... I'll be on the phone a couple of times every week to [x] finding out what he's doing and he finds out what I'm doing and so on."

INTER-FIRM CONTACT: In the Regions

Certainly contact did seem to be greater within the region, reflecting not only the role of the brewing associations but also that competitors tended to be within the region. So, it was found that in naming breweries where contacts existed, 12 referred only to breweries within the region. Indeed the importance of the geographical location of the contacts in other breweries was remarked upon by seven respondents.⁹⁵ Occasionally the Big Six HQs mentioned breweries outside the region but even here in two London HQs of Big Six companies, mention was made of smaller local breweries.

In the cooperative brewery (owned by the Working Men's Club and Institutes it supplies) while there was contact with other breweries there was not "the true affiliation of talking to another cooperative" and there was a "difficulty in relating this to other private brewers..." A comment which as easily could apply to many other aspects of this brewery's operations but which to detail would be impossible given that it would destroy any claims of anonymity.

One of the most remarkable aspects of this contact between breweries is that the respondents themselves seemed to be amazed at the amount of contact - it was certainly not taken for granted. There was a degree of pride expressed in the traditional nature of brewing as well as in the ability to meet and talk with competitors, evidenced not only by such comments as the Brewers themselves 'being a race apart' but also through the shared concerns of competing breweries "Certainly on the personnel side we have no secrets really because what we're discussing are usually common problems - because what happens here one week, certainly happens at /adjacent brewery/ the week after or vice versa...".

Nevertheless, the existence and awareness of competition was remarked upon in most of the interviews. The comments varied from "it's a cut throat business" to "although it's very, very competitive, it's still very friendly and cooperative."; "if I wanted information, for example, from [x] - I know somebody there and from whom I would get information - of course it would be on the old boy network... even, although we are competitors." This curious mixture of competition and friendliness in contacts within the industry was a recurring theme "we have a fairly mutual help thing - we don't want to give too much help because we're in competition! But we're not deadly enemies, we get along fairly well." "Everybody tries to benefit from other people's experience. Other people's experience is cheaper anyway." However, desultory conversation, at whatever level, may not be so important. Aguilar in his study of 137 US and European managers, reported that "in NOT ONE SINGLE CASE did a manager report the obtaining of important external information from a general conversation or other undirected personal communication. One possible explanation for this extraordinary finding is that managers seldom accidentally run across external information that they RECOGNISE AS BEING IMPORTANT without further check." "We might go on to speculate that by the time the manager recognises the information as really important, he would probably consider that he had actively solicited it." (Aguilar, 1967, p.102/3) (emphasis in original). Yet Aguilar also notes, quoting one manager that:

"The many tidbits of information that an executive picks up through informal conversations with other businessmen serves to provide a "background noise" that can be extremely useful, perhaps not in precisely pointing to a solution; an issue, or even a problem, but in alerting the business-man that something has changed. The real value of this source lies in its ability to give the first dull impression that there is something more to be learned." /1967, p.91/

It would be interesting to know to what extent brewing is idiosyncratic in its inter-firm contact and also if any other industries have a similar view of themselves which could be summed up in the phrase 'us against the rest of the world'. While the origin of this attitude is unclear, brewing interests are not commonly associated with the public good by various non-industrial audiences. Similarly, the practice of governments in raising a great deal of tax revenue from the brewing industry may have engendered such defensive attitudes. There was a continual stress on the fact that "they are all in the same boat", and that "it is very much in our own interests as an industry to get together." Competition tended to be stressed by the younger respondents who appeared to see other breweries in a more gladiatorial light. For example, one said:

"I like personally to know the names of our competitors - not from the point of view of underhand or illegal dealing but from the point of view that I find it easier to work out the thought processes of somebody if I actually know them.... So I personally do like to get to know a wide range of board members in other companies for that purpose."

One respondent said he found one very good source of information on other companies' activities to be the truck drivers who would be the first to know if anything new was going on, suggesting a somewhat competitive perspective. A similar comment was recorded by Aguilar on truck drivers as information sources on competitors (1967, p.64). A training manager stated "I don't know if that's true of other functions but I feel at ease with my counterparts in other industries. If I've got something which I think is a head start on what Allied or Bass has got, I ain't going to give it away." But it should not be forgotten that there is direct commercial contact between brewing companies - in production, marketing and bottling there is often cooperation between breweries.

KNOWLEDGE OF INNOVATIONS WITHIN THE INDUSTRY

Given that there was a great deal of contact, formal and informal, at various levels, it is surprising that so little awareness existed of the AWGs which have been tried in one brewery. This was also the case regarding knowledge of 'changes in work organisation' which had been tried in other breweries. While there were five references to incentive schemes of various kinds, four mentions of one brewery's decentralisation programme, and a couple of remarks about the introduction of automated equipment, there were very few to what might broadly be termed 'social changes' which were being carried out in a number of breweries. Thus a seminar held in a brewery which had implemented a fairly extensive consultative scheme and which was attended by representatives from at least three other local breweries - was mentioned by only one respondent. Even the assistant personnel manager in the brewery which had held the seminar mentioned neither the seminar nor any association with the organisation which helped organise it. Similarly only one mention was made of an innovation in work organisation in another brewery, despite the fact that a number of breweries had implemented changes. Indeed, 12 of the respondents knew of no breweries which had tried to introduce changes in work organisation. While six respondents named a brewery (which had introduced AWGs some time ago) for changes and innovations, these referred to the firm's use of psychological testing and the consultative structure. Only one respondent associated that brewery with work groups. As the previous questions in the interviews were concerned with knowledge and examples of AWGs in Europe and Britain, it can fairly confidently be asserted that there was very limited awareness of AWGs which had been tried in the brewing industry. Similarly, there was no mention of job enrichment, work structuring, or worker involvement schemes in other breweries.

Two comments by respondents suggest why more is not known of the brewery which had introduced AWGs some years ago. "Not a very successful company but of course we're always told a very good Personnel Department."

"... [x] for example dominates its market - there's less incentive... I mean, why mess about with something that's working. It's usually expensive to bring in the change, and for what if you've already got most of the market?" It may be that an eye is kept on the successful, and if changes are made it is only in a highly competitive market situation and when the company is under attack. Changes, particularly those with dubious economic returns might be associated with declining fortunes and to be avoided, rather than followed. "It's economic performance that registers" according to one ITB adviser. While a number of respondents mentioned that it was necessary to keep an eye on one's competitors, and they tended to be in the immediate area, it is further surprising there was only one mention of AWGs in the one brewery, even in the area where it held a substantial proportion of the market. Of course, in asking about 'innovative' firms, it might be that respondents felt to name any brewery as innovative was tantamount to a recommendation of the practices of another firm. Given the feelings of competitiveness that were sometimes expressed, it might be understandable why there was such a limited response.

It did not appear that there was any secretiveness about 'social changes' which were being or had been tried, although their presence was not advertised. In three instances at least, an article had appeared in a trade or other journal describing the work being carried out, and in two cases seminars or lectures had been conducted. As one respondent put it:

"If you're asking, would we rush around to /a nearby brewery and tell them we've got AWGs ... no, we wouldn't. If they wanted... if they got to know about it and wanted to talk about it, they would come and see us and... fine. But it's not something we would make too much of a song and dance about."

In another brewery where extensive changes were being tried there had been no discussion of the changes outside the company "we're tending to keep it fairly close to ourselves, I don't think for any reason of not wanting to tell, just that life's too short," yet the respondent later went on to say that at 'Think Tank' meetings "if somebody said 'what are we all doing on involvement, then my boss is quite likely to say 'well, we're doing this, that and the other at...".

So it seems that other than coming across articles or TV programmes, information would have to be actively sought, it would not simply be offered regarding work changes. Yet at the same time, the lack of knowledge in this area is perhaps indicative of lack of interest. In the awareness of changes which had been tried in other breweries, the stress tended to be on the 'technical' rather than the 'social'. It was changes such as incentive schemes, methods of payment, the introduction of automated equipment, decentralisation, rather than the job satisfaction, job enrichment changes which were mentioned.

So despite the extensive contact which takes place between breweries, conversation would seldom appear to turn to changes which might include some behavioural or social science component. However, the channels of communication are there if interest is, for some reason, stimulated. There is a suggestion that the higher up the organisation that contact takes place, the greater the chance of work organisation changes being discussed e.g. at Think Tank meetings.

SOCIAL SCIENCE RESOURCE PERSON

While the origin of an idea may be of great interest, how and who receives the idea may be even more important. As it is with ideas from the social sciences that we are concerned, then the position and function of the social science resource person is of considerable interest. The position in the hierarchy is important because it may affect the outcome of any recommendations which might be made, on the principle that the higher in the organisation, the greater the influence that can be wielded. The function in which the resource person is may also affect the outcome or recommendations. The personnel department, for instance, is not traditionally the department seen to enjoy greatest organisational power. However, the extent to which the resource person is the gatekeeper to information flow within the organisation, and information which is sought by others in the organisation may enhance the power he enjoys.⁹⁶

(The tendency, noted earlier for the terms social science and behavioural science to be used interchangeably became something of a problem here. It was discovered very early in the interview that attitudes and reactions to the words 'industrial sociology' were not altogether positive! The very term was classified as jargon and its use was confined to those who had studied some aspect of the social sciences. Social science was seen as somewhat more respectable but even this term was challenged and 'behavioural science' used in preference. It was the term behavioural science which was finally used in my letter. This shift from industrial sociology to social science to behavioural science neatly illustrates what happens in the diffusion process so that through the various translations the original term is adapted and could be argued to be quite different in meaning at the end of the process. The impossibility of charting the diffusion of one idea becomes apparent. The idea is

constantly changing - the content, the implications and associations alter - nothing seems constant. To make any claims therefore that the diffusion of an idea has been examined is misleading. Rather a snowballing process in which the object under study is never still and never the same might have been examined. It is therefore the process of diffusion and not the diffusion of an idea which is being studied.)

As noted earlier, the initial letter to the breweries was worded so it would tend to land on the desk of the person who would deal with enquiries regarding the social sciences. In all but one instance, the respondent was to be found within the personnel department, the exception being someone who had, until recently, been in the personnel function.⁹⁷ There were only two suggestions that other departments might be involved in work organisation changes, both in medium sized companies: in one case where the Industrial Engineering Department would come up with ideas, and in the other, where the Production Director was held to be very interested in reading about the 'human aspects'. Half the respondents (13) identified themselves as the social science resource or would know and be involved in any matters which arose relating to social science issues. They were divided between the medium and large companies. In only one of the five small breweries was there an identifiable social science resource person. Ten of these 13 resource persons were either at personnel manager or personnel director level, the three others - all in medium sized companies were at training manager level. In the companies where the respondent was not the resource person, (and there was a resource person) he was in four cases identified as the Personnel Director and in the other three cases as the Training Manager.

It should be noted in passing that to find the social science resource in the training rather than the personnel function (to the extent that the two are separate) may mean a rather under-developed personnel department. Indeed, as one respondent in a large OC commented about social science queries "we would not be a well established personnel department if they did not come to us." The relatively late establishment of personnel departments in some breweries should be remembered here.

Of those who were the social science resource, respondents and others, five had degrees in the social sciences - one of these being a Masters in labour economics, one Ph.D. in psychology. Regarding the social science graduates, in only two instances was a sociology input mentioned, the topic normally being economics. Of the other degrees one had a Masters degree in Manpower Studies, the remaining three having graduated in Geography, History and Mathematics. Altogether then, mention was made of nine graduates who were the social science resource. This figure should be treated with caution for a number of reasons. Firstly, it was not always known who was or was not a graduate and guesses sometimes seemed to be made regarding the subject of the degree. Secondly, in two interviews, the respondents were not asked whether or not they were graduates - in both cases due to lack of time and the interviews being slightly rushed. Thirdly, one or two of the respondents seemed reluctant to talk about their qualifications and/or previous experience and were not pushed to do so. Three of the respondents were members of the IPM - by examination - and the topics covered in the curricula include a broad basis in industrial sociology.

Of the other respondents who were the social science resource, they claimed their knowledge of the social sciences was "built up over the years" that they had "read all sorts of things"; that their knowledge had been "picked up as I went along" and "I went through the behavioural sciences once". There was little evidence here of any systematic learning or formal training although two mentions were made of courses: in one case a Work Study course and the other a management/training course the respondents had attended.

Among the respondents then there is not a great deal of specific social science input especially where it might include some sociology. And in some cases where it exists, e.g. in IPM courses, it is unlikely to be at more than a superficial level. It appears then that a somewhat limited competence exists in the brewing industry regarding the social sciences. But this conclusion may be over-hasty for two reasons. One, because it is impossible to know the competence of those resource persons who were not interviewed, and that competence is hard to gauge from comments made such as "The Personnel Director - he's probably going to get the highbrow information - he's very interested in that sort of thing." Secondly, paper qualifications relate to past activities, to knowledge which might well be forgotten and give no indication of present level of interest or experience.

THE INFORMED AMATEURS

Although it is hard to try to judge knowledge of the social sciences, four of the respondents did seem to have an above average (in the brewing industry) appreciation of concepts and theories, particularly in relation to psychology and the behavioural sciences. This was reflected not only in their conversations but in their bookcases or the books they referred to. (Of course the contents of bookcases may well be unread, but at least the

possibility is much greater of the book receiving attention if they are at hand). Their bookcases tended to have a wide range of books from industrial relations, to psychology, to philosophy and aesthetics. A number were concerned with industrial sociology such as Fox 'Beyond Contract'; Trist et al's 'Organisational Choice'; Topham 'The Organised Workers'; Blackburn 'Union Character and Social Class' and there were others such as Oppenheim 'Questionnaire Design and Attitude Measurement'; Paul and Robertson 'Job Enrichment and Employee Motivation'; Daniel and McIntosh 'The Right to Manage', etc.

Overall, the books indicated a fairly high level of interest and awareness in the social sciences. These respondents I have called 'informed amateurs' for three of these four people who appeared to be most informed and interested were those who did not have any formal training or a degree connected with the area. The fourth person had a Masters degree in Manpower Studies. But it is in the past experience of the respondents that much of the knowledge and interest appeared to originate. In one case, through a lengthy period in the Army where the respondent had been involved in early T-group work; in another knowledge and interest came through experience in a large multi-national which had been heavily engaged in utilising behavioural scientists and in which he had extensive contact with American behavioural scientists. In a variation of learning by 'sitting next to Nellie' the respondent said he just 'glued' himself to a behavioural scientist who was working in the company; "for three months, I listened and watched and learnt as much as I could." And in the third case, it was through experience 'at the sharp end' in a brewery on the personnel side for quite a number of years and the personnel manager's philosophy reflected that experience. In explaining his activities, he stated rather apologetically "I've got a thing about involvement you see...". Of these four 'informed

amateurs' - two were in large HQs and were personnel managers while two were in medium companies, one at HQ and one at OC, and both were managers responsible for training and development.

The presence of informed amateurs reflects not only the interests of an individual and the recruitment policy of a company but is also something which it is hard to buy. Informed amateurs are unlikely to work for an organisation where they cannot influence the development of the organisation or its managers; "the reason I came here was because I knew the Group Managing Director wanted what I believed I could deliver". And the line managers too:

"They're the guys that control the budgets, they're the guys who make the decisions and if I can't persuade the Chief Executive, or a Chief Executive who's not half inclined in my direction, then I'll go somewhere else where I've more chance of success."

RESPONDENTS' OPINIONS OF SOCIAL SCIENCE

When looking at the respondents' opinions of the social sciences, it was the informed amateurs who were most enthusiastic and whose evaluations of the social sciences were most positive, e.g. "use the behavioural sciences tremendously"; "very useful" etc. Why should these respondents have been keener than the others? Experience alone it seems is not enough to stimulate interest in the social or behavioural sciences. One respondent who had been involved in the successful implementation of a job enrichment scheme in an organisation he had worked in, displayed very little interest or enthusiasm for the subject:

"We've got two or three /behavioural science/ books next door on the shelf and I must admit I've never got past the first chapter of any of them! It certainly doesn't stimulate me that much, because again, as I said, it's fine in theory, but not... for the people we deal with on a day-to-day..."

Perhaps it is the absence of social science degrees or a formal input of sociology which is crucial, the people who claimed they had done a degree with some sociology or social science input seemed to be less interested in the subject as well as being more sceptical as to its value. Indeed, it was two economists who specifically made negative comments about sociologists, one muttering about beads and beards and long-haired lefties. (Comments from economists which should occasion no surprise given the acknowledged antipathy which often exists within universities between the two disciplines!) A finding which was echoed by Klein (Social Scientist in Industry) "It has been said that the member of an OR team who is least likely to want a professional economist included in the team is the one who has a smattering of economics." (1976, p.225) An economist in a medium OC said he would "turn off" if he saw the word sociology because "Again, I think it's probably a hang-over from university days - the sociologists you know used to... you're not a sociologist are you?" That contact with sociology produces these sceptics should be borne in mind. At the very least it suggests that sociology sits uncomfortably in degree courses with the ostensibly 'harder' subjects such as economics. It may be that the evangelical and missionary aim of many sociologists seeking to alert students to the 'realities' of society is counter-productive.

Interest in the social sciences may be due to the lack of formal input, of enthusiasm being retained because the topic has not been systematised, learning has been voluntary and self-directed. So rather on the lines of a hobby losing attraction when it becomes an occupation, interest in the social sciences might be sustained because there is a large element of choice in keeping up with its output.

However, the informed amateurs maintain reservations about the social sciences, in which they are indistinguishable from many other respondents. Having asked the respondents their reaction to the words and opinion of the social sciences, two thirds of the responses were positive, ranging from lukewarm to enthusiastic, while one third of the responses were negative. It was particularly in the small companies that responses were negative despite one respondent having studied industrial sociology as part of his degree, and another having first-hand experience of the use of behavioural science. From the former:

"my verdict on the industrial sociologist is that they are good at writing books, at putting jargon in to hide the common jargon that we're used to, but they can never get past the factory gate or the office door"... "I've never been impressed with industrial sociology".

And from the latter:

"Quite honestly the behavioural sciences and so on - I've been on a number of courses where they've been stressed, on the safety side, on the work study side of it - they form basic training on that type of course - very often we think they're a bit overplayed. You can go too much overboard. I don't know quite what to say. What my basic feeling is, I think, looking at the theory it sounds very good but when it comes to practice, I think it's entirely different quite honestly."

Only in one small company was any positive interest in the social science evinced, but the respondent had to have the term social science explained to him after which he replied:

"I personally am fairly interested though I haven't studied it, in what motivates people. When I look at people in my department, I am very keen to know why they are doing it, what they are doing, and as I say, the success of the small company is geared to the fact of the motivation of a few people and I think it's very important."

The link made between motivation and social science is interesting and gives a hint of a recurring theme - that what practising managers might refer to as social science is what academics would call behavioural science, or applied psychology.

A favourite subject encountered in small, medium and large companies was the over-proliferation of social sciences and social scientists, "I think the image is bad because we've got so many sociologists as social science seems to be such an easy ride at university - that's the lofty heights of a Cambridge historian talking"; "but I wonder seeing some of the work that comes out whether we're not going round in smaller and smaller circles. Doing more and more with less and less until we know everything about nothing."

One point needs to be reiterated regarding managers in the brewing industry, an aspect found in all sizes of company and which possibly affects opinions on and interest in the social sciences. There seems to be a great deal of cross-functional movement, e.g. from accountancy to personnel; from work study or sales to personnel. (see table p.336) Changes in function may mean - as one respondent pointed out, being thrown in at the deep end - having been asked if he had any training in personnel he replied "No. It was fairly traumatic when I first started. Being an accountant, it was a very different kind of responsibility. I took over my responsibilities really at 24 hours notice which was quite traumatic." While this is an extreme case, managers moved from function to function are unlikely to have much awareness of the social sciences or time to gain such knowledge being concerned, on transfer just to cope with the day-to-day problems. Perhaps also the perspective gained in other functions such as work study or accountancy may not encourage investigation of more ostensibly 'tender-hearted' areas such as the social sciences. Even if they are interested and implement some changes, their frequent moves within the company may mean they are unable to see a project through or see the long-term consequences of any projects.

Within the medium sized companies, attitudes to the social sciences were more mixed. As noted earlier, two of these companies had informed amateurs who also made some reservations in their enthusiasm. With behavioural science "it is a question of having it embodied in rather than letting it stand on its own". And the other remarked that his view of the behavioural sciences was somewhat coloured by the number of -isms which had come and gone, making him rather more cautious in his approach. The other respondents in medium sized companies, (including one in an OC of a company in which there was an informed amateur), were a great deal more antagonistic to the social sciences. One, as noted above, would turn off on seeing social science, while another complained that articles are "too technical" and "with too many buzz words" and this economics graduate went on to say "if they write avoiding jargon and saying something, even if it is a regurgitation, I'll probably read them - if they start jargon then I just won't read them."

It was a training manager who made explicit the problems involved in the words 'social science' and who it is worth quoting at length.

"I think we are doing a bit of a Pavlovian reaction to the words 'social science' - but if you add the words 'social science in management' it becomes respectable and you immediately become interested, so it's when you take them out of context or use them on their own, you often get a mixed reaction... But if you use motivation as distinct from social science or specify it's for management or something to do with the actual job one's doing it becomes much more interesting or if you call it behavioural science it becomes respectable. You see, I'm much more used - that's why you threw me - to using the words behavioural science. I would never call the sort of stuff we teach people, social science"... "To call it social science, to a lot of people I deal with would have a demotivating influence."... "I think social science gets very much confused with social work, do-gooder, that sort of attitude in a lot of people's mind."

Two respondents from medium companies remarked on the decline of the social science: "I suspect that the euphoria of the late 60s, early 70s has waned a little bit."; and "it was much more the in thing (seven or eight years ago) than it seems to be these days anyway." Nevertheless, the climate of opinion in the medium sized companies was, overall, much warmer than in the small breweries. In the large companies, the picture was also not always clear. At OC level, attitudes tended again to be less favourable than at HQ level. One recurring criticism in the OCs was the jargon and terminology which deterred reading in the area. Statements were a little more guarded as to the benefits of using the social sciences, e.g. "I think they /the social sciences/ can be very helpful if adapted to suit the local organisation and local requirements - and if they avoid as best they can the terminology and gobbledegook which they go in for." In one OC, interest was attributed to another person, distancing the respondent from such matters, while in another there was a suggestion that the reply was designed to please and impress "I think they /the behavioural sciences/ are of key importance to the running of businesses - they always have been, but one's understanding and recognition has advanced perhaps more... certainly mine has."

At HQ level of the Big Six companies, attitudes were more relaxed towards the social sciences, e.g. "one treats it just like any other branch of knowledge" and "sociological analysis is a very useful tool in showing how organisations work. I think many managers regard sociology books in the category of common sense." However, some antipathy was also expressed regarding academics - their middle-classness, and lack of practical experience

"What I tend to do actually is look at something and at the bottom it says J. Snooks or something who's a lecturer in psychology at somewhere or other, I think, Oh Christ, but if it says J. Snooks, who's got a psychology degree and for the last 50 years has been Works Manager at Boggs and Company - then I think, Oh yes, I'll read that. So there is in my mind if you like, a distinction between academics (laughter) and others."

An 'informed amateur' echoed one point made by another 'informed amateur' in a medium HQ regarding 'isms' -

"I'm wary because one knows the sort of pitfalls - I mean this is the part of one's experience of work in this field. What we're very much against and what I personally crack down on quite hard is when somebody gets something and treats it as a nostrum, as a cure all...".

One other comment from Big Six HQ respondents is worth recording:

"I would say that the younger members of management on the board are keener on researching into what makes people tick, how to motivate them, than I would say the older members who are used to the previous way of doing things in the company which was highly paternalist..."

and a similar comment was made in the OC of a Big Six company. These comments are interesting because in general it was the younger managers - with one exception, those under 35 - who were most sceptical in their comments about the social sciences, the older respondents being less critical and apparently more receptive to its output. Indeed a manager in a small company said he found managers below 35 often backward in their attitudes to man management which he personally found worrying.

To summarise here, it seems that size of company does affect the perception of the social sciences - the small companies being more critical and the large companies less. Overall, it appears the larger the company, the more likely that favourable attitudes will be encountered. However, the existence of informed amateurs in both medium and large companies should be remembered. That formal contact with sociology may result in scepticism is interesting and worthy of further investigation. Similarly, while the attitudes of younger managers may again reflect the size of company they work for, it may be that scepticism is encouraged by the more persistent stress on the 'human aspects' of industry in the courses they attend. There are recurring themes in the opinions of the social sciences. On the negative side: the jargon, the poor image, over-proliferation and

waning popularity of the social sciences as well as the academicism of much social science and the lack of practical experience. Even amongst those who were sympathetic to the social sciences, caution and wariness were expressed: that the social sciences were to be 'embodied', not to be swallowed whole, and prey to fads and fashions; comments which are indicative of previous negative experiences. Positive comments were made particularly regarding the uses of social science; very useful, use tremendously, of key importance, etc. However, given that two thirds of the respondents asserted they were favourably disposed towards the social sciences the number and range of negative comments needs some explanation. It seems likely that people being interviewed by a sociologist will be reluctant to denigrate her subject. But in subsequent comments, the lack of positive statements is evidence of an overall negative perception of the topic. If the initial statements of evinced interest are discounted, then very few of the respondents went on to make a positive comment. Indeed, there was only one unqualified positive response although five respondents did go on to reiterate, if with caution, the value of social science, particularly through its effect on their attitudes and decisions. Even the informed amateurs evinced a scepticism of the social sciences. Thus to imagine that managers are an entranced audience, keenly monitoring the output of social science would be wrong. But one critic of social science perspicaciously commented in his evaluation of sociology; "it's social engineering, isn't it? If you take sociological analysis, its a tool for, to engineer organisations, society the way you want them to be."

Of course, the existence of a social science resource does not mean a monopoly of interest or knowledge in the subject. Indeed, there may be other, as well if not more, informed, people in the organisation who perhaps are not in a position to use that knowledge. For instance, in one large HQ where there was,

"a girl with a psychology degree who's an administrator in the market research department - she's not even doing market research and she seems to be perfectly happy. I mean there are certainly people coming in with those sorts of backgrounds but they are not using that knowledge in any direct way in carrying out their role."

While the social science resource person might be the one who would be contacted by the OCs, there may be someone elsewhere in the company who is as well informed as the HQ person: "the chap at an OC he's in personnel, he's far more into social sciences than I am - in fact, he's doing a stint at the IPM Harrogate thing, believe it or not." The existence of such people illustrates the difficulties in trying to discover the key persons, those who influence thinking and practices in the company. Although a well-informed social science resource in an OC is not normally so well placed to affect policy as someone in HQ, that is not to say he does not do so, for instance, through a key person at HQ. Altogether seven respondents (but three of these were not resource persons) mentioned others in the company whose activities they would watch and whom they might talk with regarding social science ideas. Five of these were within the immediate company, two in OCs. So there are others than the social science resource whose information and knowledge of the social sciences may be strategically important in affecting what ideas are considered or even implemented.

Less informed people on the social sciences are also to be found within companies, having as four respondents mentioned, been through the 'basics' on management courses. Their presence may also be crucial in that they may act, in the light of their limited knowledge, to foster or impede the use of such ideas. But attitudes to the less informed may be rather unflattering as when one respondent is being asked about social science knowledge of others in the organisation said they would know "only what is fed to them by personnel and training officers and what they come across on training courses."

INITIATION OF CHANGES

Thirteen respondents (from seven companies) said innovations had been initiated from 'the top' - managing director, chairman, directors. Respondents from a further five companies said 'initiatives' came from managerial level or resulted from meetings of various levels of personnel. In the other four companies no changes had taken place which could come under the heading of social science or work organisation.

Initiation of changes

	<u>Large</u>	<u>Medium</u>	<u>Small</u>	
Managing Director/Chairman	4	2	2	)
Personnel Director	3	1	1	) 7 companies
Personnel Manager	2	1	-	)
Meetings	-	-	2	) 5 companies
	-	-	-	)
	9	4	5	
	=	=	=	
No changes				4 companies

Changes, then, appear mainly to originate from top level. However, two respondents pointed out that initially it was the Personnel Department which had to 'sell' an idea to Board members or the Chief Executive before it was adopted. The origin of ideas in the company may not be obvious. Ideas may be implanted or 'sold' by personnel lower in the company to senior executives who might then claim credit for them. Ideas move both up and down the management hierarchy.

However, what suggestions or ideas are put forward are likely to reflect the climate in the company towards such topics. If the climate of opinion is favourable, both moral and strategic support may be forthcoming for suggested innovations. It seems that the climate of opinion depends to a great extent on senior personnel. "His /the Chairman's/ philosophy

very much is that he wants the people that work for him to enjoy the work they do and that the company is more than just a profit-making machine... He's very keen on the social aspects." Similarly, "the pace of implementation ... and the company's style is very much a reflection of the style of its most prominent character." Thus it is the interests and attitudes of the top people which may be crucial regarding social science. To the extent, then, that this study has looked at managers rather than at directors, it may not have focussed on the relevant population: But it would be necessary to look at both directors and managers and investigate the patterns of influence and information flow. (A research project which would be a major undertaking in one company, let alone several!) Nevertheless, managers do occupy strategic positions. Not only where they are the social science resource but also if and when the "bright ideas" of top men are followed up, their knowledge and opinion of the social sciences may crucially affect the outcome of any initiative.⁹⁸

SOCIAL SCIENCE INFORMATION SOURCES

By asking respondents where they would go for social science information, it was possible to gauge the importance of others within the organisation who had social science knowledge. Were there others in the company who might have additional or greater information on the social sciences? Were the respondents' claims to be the social science resource persons accurate? Was there only one accredited information source on social science in the company? Of those who were the social science resource, only two would initially approach someone else within the organisation - both these respondents were in OCs and would contact Group Personnel at HQ. As a second choice, after in two cases, consulting their own library, and in another the IPM, three respondents who were all resource persons said they would contact their training officer (within the OC),

their boss and the HQ personnel department respectively. Thus in only five instance was there someone with sufficient expertise within the company to whom resource persons would go. In no company where it had been mentioned was there someone ostensibly equally well informed, or senior personnel interested, in the social sciences, were those people mentioned by the respondents as possible sources of further information.

It is hard to bring out a clear picture from this but at a minimum, five of the resource persons would seek further social science information within the company, while seven would not.

In those five companies which relied on internal sources for further information, the knowledge input to the organisations will be more crucial than in situations where initial enquiries would be made outside the company.

There are a number of implications from those companies where an internal information source is used by the social science resource person. Firstly, the ideas or projects are not pursued without the knowledge and perhaps approval, of others in the organisation. Secondly, that the organisational climate is such that contact within and between companies in the group is not discouraged. Thirdly, that there was more than one social science resource person in turn suggesting that the concept of 'gatekeeper' may be misleadingly restrictive.

As regards those companies where the social science resource person would seek further information outside the company one point ought to be made: that the social science resource person was more likely to have correctly identified himself as such and, by extension, his opinion and knowledge of the social sciences was relatively more crucial. It is worth pointing out here that of these seven respondents who would first seek

information outside the company, four were the informed amateurs. (The other three were to be found in one large OC; one medium OC and one small company). 99

COMPANY CLIMATE OF OPINION TO SOCIAL SCIENCES

An attempt was made to find out the climate of opinion in the companies to the social sciences. This was not always successful. Sometimes the respondents merely reiterated the statements about the MD or the Chairman's interest. However, a number of interesting comments were made such as in one large HQ "I don't have to fight so hard for my ideas to survive as I've had to in other organisations." In another large company whether or not a behavioural scientist per se should be recruited to the company has been discussed. At one medium company, the training manager commented that reception to behavioural science ideas,

"varies from individual to individual - it's so difficult - but overall, yes, throughout the Group I think people would be prepared to listen and give serious consideration - not always do it - in any case we're none of us always right - the man who has to implement it on the spot is the man who's often best able to say how useful it is going to be - the answer is often how much more beer will it brew or sell."

In one small brewery regarding senior management interest in the behavioural sciences it was "hard to tell quite honestly. It's not something that's discussed widely if at all. It certainly hasn't been discussed when I've been there."

The range of these comments illustrates the problems of investigating this area because there are so many potential variables which might affect or reflect the climate of opinion. Indeed, just examining these replies we find:

1. The climate of opinion may be determined by the man at the top depending on his style of operation;
2. Consideration of the employment of a behavioural scientist does not necessarily mean a favourable climate of opinion but may merely reflect the interest of one person;
3. Obviously as one respondent pointed out, different views are held within any one company - indeed it would be surprising if there were a consensus, thus to talk about a 'climate' may be misleading; While Burns & Stalker's (1961) identification of the importance of the chief executive's style of operation in informing a whole range of activities within the organisation has relevance, this factor can be overstressed. Not only when it comes to large, geographically dispersed organisations but also in relation to the amount of consensus or even agreement, with the chief executive's views. Leadership does not necessarily imply voluntary compliance of the led. (See Etzioni, 1964). Anthony points out that managers "are not often consulted about the design of their organisation and the structure of their jobs." (1977, p.311) and,
4. The absence of discussion does not necessarily mean an absence of interest or an absence of information-input.

Any conclusion regarding this matter would be extremely hard to draw. However, it is not in dispute that the knowledge and awareness of the social sciences by the resource person is important. What is the scope of 'social sciences' as the respondents use it? If the way in which the respondents felt they used the social sciences is examined, their perception of the subject may be further clarified.

USE OF THE SOCIAL SCIENCES

There are a number of different emphases in the statements made on usefulness. Firstly, the occasional general statements such as "I look at them on the basis of how they relate to us - is there anything we can get out of them, or use them to our advantage and so on and so forth". Secondly, the more common (5 mentions) indirect rather than direct usefulness of the social sciences "I like to think in my policy recommendations that my behavioural science knowledge would influence things." "I think it is inevitable as they become a part of you and part of the way you work whether you consciously think about it." Thirdly, that social science is one of a number of inputs especially in training, e.g. it has to be embodied not to stand on its own. Fourthly, in direct but perhaps not planned application e.g. "I have brought about in my short time a mini-revolution in the management style... In negotiations, previously content to prepare the case only in discussion with the director concerned. Now need to involve other line managers and get more commitment to the settlement. Really a more open style of management now." "social science here is like the foreman saying 'good morning' to each worker. Foremen are encouraged to get to know members of the work group." Finally, in what respondents felt was direct use: in consultative committees; in flattened hierarchical structures with new reporting relationships; counselling workshops; performance reviews; attitude surveys on customer relations; on the reception of company reports; action learning; expectations analysis; aptitude tests; enriching; enlarging and rotating jobs.

What is apparent is that few of these uses would come within what sociologists would call social science, but rather would be classified as behavioural science.¹⁰⁰ While behavioural science is derived in part from social science insofar as it relates to behaviour, its' mechanistic and deterministic approach distinguishes it from much social science, including much industrial sociology. Support for this is forthcoming from the names of authors and studies which the respondents mentioned when they were first asked about social science. Thus nine unprovoked mentions were made of Herzberg and Maslow. Single mentions were made of Lockwood, Lipset, Goldthorpe, Drucker, McGregor, Eldridge, Blackburn, Trist and Bamforth, Fox. Mention was also made of a number of studies; Luton, Kalmar, Banbury, Fawley, Hawthorne, Bethnal Green. In a number of cases then, hardly surprisingly, no distinction was made between industrial sociology and sociology in general. Yet there is also a combining of social and behavioural sciences. Academic distinctions were not made. While not all the references which were made were connected with industrial matters, nevertheless it does appear that topics are lumped together when they deal with industry; whether it be Drucker on managers, Fawley 'productivity agreements' or the motivation of employees. On the other hand, it may be that it is the academics who write about industry who are lumped together.

With the exception of what might broadly come under the heading of 'participation', most direct uses of social science are what Stansfield has called 'packages' - specific programmes or tools which tend "to be much more easily and unambiguously recognized than that of permeation." (p.2) Permeation, on the other hand, is where "the results from research add to the working stock of knowledge, or modify the ideas, of people concerned with practical affairs; the results of research take effect because those people go about things in ways different from what they would have done without the

research." (Stansfield, 1967, p.2). What is of note here is that the respondents recognized that permeation had taken place and in many cases made no simplistic claims from direct usage. Of course, this may merely reflect a wish to appear to be using such knowledge, especially as will be suggested later, if it is associated with being innovative. But at least the insidious influence of ideas was recognised (more than perhaps can be said for large number of sociologists, especially American, who have studied diffusion) thus it seems that it is unlikely that the respondents have under-estimated the impact of social science. Indeed, on the contrary: for instance, in connection with 'participative' innovations two respondents mentioned the Bullock Report had influenced their activities, thus in one company:

"so we took Bullock and twisted it round ... our view was that Bullock wasn't all that bad, there was a lot of good stuff in it... so we broke Bullock down then we thought, well, how can we use it to our advantage? We got a paper out last year on industrial democracy for policy in the company ..."

Thus, if anything, the attributions to the social sciences may be exaggerated. However, that the connection is made between innovations and the social or behavioural sciences is worth noting, as it was an underlying and recurring theme in many of the interviews.

WORK ORGANISATION CHANGES

Because one of the aims had been to see if the idea of AWGs, given so much coverage in the media, had been taken up, the respondents were asked if any changes in work organisation had been attempted within the company. This general question, rather than a more specific 'have you tried to introduce AWGs?', seemed appropriate; Partly because the loose and general way in which the popular articles on AWGs discussed topics such as job enrichment, etc. meant the presence of such schemes might be evidence of diffusion. And partly because changes might have been tried which the respondents themselves

in no way identified with work groups and yet which might have contained elements of that type of thinking. And partly because the questions had been asked if they knew of any attempts to introduce AWGs in brewing, and, if AWGs could be used anywhere in their own company. Finally, changes might have been made which included a social science component yet were not seen as such, as would not be included under the heading of how they felt they used the social sciences. In the event, the general question elicited a good deal of information on the changes which were being tried.

Seven of the respondents (one small, three medium OC, two Big OC, one Big HQ) said no work organisation changes had been made. The other 16 respondents claimed 27 changes in work organisation had been made. It is obvious that 'work organisation changes' was interpreted very broadly. Not surprising really as it is a very ambiguous term - as are most terms in this area, such as job satisfaction, QWL.

<u>Type of Change</u>	<u>Number of Mentions</u>	<u>Company Size</u>					
		<u>Big</u>		<u>Medium</u>		<u>Small</u>	
		HQ	OC	HQ	Independent		
Briefing groups/liaison meetings	4	-	1	-	1		2
Consultation/communication schemes	4	-	2	1	1		-
Decentralisation	4	3	1	-	-		-
Flattened hierarchical structure	2	1	1	-	-		-
Work structuring into 'zone teams'	3	2	1	-	-		-
MEMO: maximising efficient machine operation	1	1	-	-	-		-
AWGs	1	1	-	-	-		-
Job rotation	4	1	2	-	-		1
Job enrichment	2	-	1	-	-		1
Incentive schemes	2	-	1	1	-		-
	—	—	—	—	—		—
	27	9	10	2	2		4
	==	=	==	=	=		=

By company size, the above looks as follows:

Big HQ	9 changes	(no changes - 1 respondent)
Big OC	10 changes	(no changes - 2 respondents)
Medium HQ	2 changes	(no changes - - respondent)
Medium OC	0 changes	(no changes - 3 respondents)
Indep. Medium	2 changes	(no changes - - respondent)
Small	4 changes	(no changes - 1 respondent)
	27	7

These 27 changes have been implemented but they do not show the interest or attempts to introduce changes which might have failed. Thus two respondents mentioned attempts - one of job rotation which failed, and one of job enrichment which never got off the ground (job enrichment had not been a success at a company outside brewing, whose lead was being followed). Seventeen of the changes, the first five items, can be broadly seen as attempts to increase employees' involvement or sense of identification with the company through a variety of methods: better and fuller communication to increase involvement and motivation of employees; smaller units - on one hand the regional company being made more autonomous, and on the other, 'zone teams' responsible for a small geographic area - to increase local identity. A further six schemes - job enrichment and job rotation - were again designed to increase motivation.

However, these schemes would appear to owe more to the work of Herzberg and Maslow than to any industrial sociologists. All the schemes seem based on the premise that man does not work for money alone, that he has needs to belong, achieve etc. Given the degree of publicity which AWGs have enjoyed, it is surprising that only one attempt has been made to use the concept. However, in two of the instances of 'zone teams' there appear to have been attempts to create functional teams who between them carry out a range of activities. Although the personnel are not interchangeable or paid as a

group, they do seem to be self-directing to some extent. In these two cases, and in the MEMO exercise where team building and problem solving workshops were tried with supervisors and middle managers, there appears to have been some influence from ideas on work groups. Even in one of the incentive schemes tried: a Wealth Creation Scheme where all employees shared in the good, and to a lesser extent, the bad, fortunes of their Location (with a proportionate contribution from other Locations on whose performance they had some influence) - there is an element of responsibility shared amongst all employees which might partly have been influenced by work group ideas.

Of course, it is easy to overstate these cases. There is little evidence to show - and it would be virtually impossible to show - the impact on practices of a group of ideas such as that contained in AWGs. AWGs are only one of a number of topics which enjoyed publicity in the early and mid 1970s. The Quality of Working Life, Bullock, etc. had some impact on two of the respondents noted. Herzberg's thinking continues to be embodied in almost every training course which relates to people in industry. To disentangle artificially the knot of ideas circulating at any one time would be to misunderstand the nature of diffusion. All that can be said is that AWGs have been tried at least once in the companies visited in the brewing industry and three other changes in work organisation might owe some debt to the ideas behind AWGs. Only two respondents had mentioned work organisation changes as examples of their use of social sciences: one of job rotation, and one of new reporting relationships resulting from a flattened hierarchical structure. Only the second of these respondents claimed to be the social science resource.

Again, despite the degree of inter-firm contact there was no mention of changes in other brewing companies similar to the changes they themselves had initiated. Indeed, all the changes which the respondents knew had been tried in other breweries were quite different in focus from the changes they had implemented. Thus, it appears that breweries either did not know of similar changes in other breweries, or did not want to be seen to be following the lead of another company. Yet on changes such as decentralisation which four large companies were engaged upon and which comes less under social change and more under business strategy, the curious absence of reference to other companies is mystifying. It seems most unlikely that respondents would be unaware of at least one other company's decentralisation programme, especially given the high level of contact with 'opposite numbers'. And why should decentralisation of the respondent's company be included under work organisation changes in one's own and not other breweries? Perhaps it merely reflects the respondent's wish to be seen as part of an innovative company, which in turn might mean playing down the activities of the opposition. This seems to get some support from the lack of knowledge or at least positive response when the question was asked about work organisation changes in other breweries. Twelve of the respondents said they knew of no other brewing companies which had made any changes in work organisation etc. This again adds weight to the suggestion that it is technical rather than social changes which are discussed during any inter-firm contact. Certainly there was no obvious attempt to publicise any changes which had been made, any reports on the changes appearing to have been initiated by an outside organisation.

KNOWLEDGE OF AWGs (see also Chapter Three on Publications)

To look more generally at the diffusion of ideas to the brewing industry, the respondents were asked about AWGs. Two thirds (one was not asked due to lack of time) knew and could give a coherent explanation of the phrase AWGs. Indeed three mentioned Trist and Bamforth's work in coalmining or the work of the Tavistock. Nine did not recognise the phrase. But eight of these nine had heard of the Volvo experiments - "My God, who hasn't!" - and could go on to give some explanation of the changes there (three large, two medium and two small companies). It was a little surprising that the term AWG was so well known because in the literature the term is more likely to be teams of workers; self-organised workers; production groups, with only a sprinkling of phrases such as semi-AWGs or self-governing groups. Perhaps the key words are 'work groups' and these were picked up in the phrase AWG. Having asked what the respondents understood by the term, or the work which has been done at Volvo, it is interesting to look at the different factors which were mentioned.

Only 11 respondents mentioned the word group or team in their description, while 12 mentioned that the work was undertaken on a whole product or 'from start to finish' basis. That it was an alternative to assembly-line methods of production was noted by eight people. The words job enrichment were used six times in the descriptions, and group technology twice. Comments on the greater responsibility of workers; the self-governing and self-contained nature of the groups, and that it affected supervision and management were each mentioned five times and only one mentioned that management were 'terrified' by this. Interchange of jobs was mentioned on three occasions, demarcation lines twice. But only one mention was made of autonomy - although this may have been implicit in the self-governing phrase. Problems which the practices brought were mentioned by two people; one that managers were

terrified by the prospect of AWGs, and the other of the greater training time required, interpersonal issues and the need for buffer stocks. Only one respondent (from a small brewery) made a distinction between the phrase AWGs and the work at Volvo.

(See following table)

Merely abstracting the concepts which respondents mentioned gives little real indication of their appreciation of the concept. To overcome this, below are recorded a cross-section of the descriptions which were given:

1. In Volvo "they do all the jobs involved in a complete production exercise. They do everything from turning to assembling to paint spraying to finishing of products ready for sale. Make own decisions on what, when and how."
2. In AWGs - "There is obviously a greater degree of decision left to the workforce - there is still a role for the supervisors, he's not a supervisor in the traditional role, he acts more as an adviser, steerer, this sort of thing, and I would have thought that the other, or one of the other aspects of it, was that to an extent... there should be an interchange of tasks, and ideally a whole task completed by that group."
3. Volvo was about "getting rid of the assembly line concept and having integrated groups who work on one particular product - it's to do with job enrichment - I mean there are all those sort of ideas."
4. "Well I guess my understanding is that they /Volvo/ looked at assembly line technology and said it's not working, attendance was falling off, performance was falling off - is there any other way we can build our cars which would give us a net benefit? and then they moved from one long assembly line to a sort of small, sub-groupings of people and

Factors: Respondents:

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total
Group/Team	*		*	*	*	*	*	*	*						*		*	*		*				11
Self governing/self contained		*	*							*		*	*											5
Affects management/supervision	*										*			*	*									5
Whole product/'start to finish'	*	*	*	*	*	*	*	*	*	*						*			*					12
Alternative to assembly line methods	*		*	*	*	*	*	*			*		*											8
Problems	*	*																						2
Autonomy		*																						1
Group Technology	*											*												2
Job enrichment	*	*	*		*									*			*							6
Greater responsibility	*	*		*				*	*															5
Managers terrified of idea	*																							1
Interchange of jobs		*		*			*																	3
Demarcation lines			*			*																		2
Distinction made between AWGs & Volvo										*														1
	9	8	6	5	4	4	4	3	3	3	2	2	2	2	2	1	1	1	1	1	0	0	0	64

(N = 23 respondents)

attempting to build for the people a beginning and an end, and a product they could see.

5. The AWG idea? "Well, I've always associated it with the group that is self-contained really, and does the job from start to finish, particularly the sort of thing like washing machine manufacture, that's somewhere they do tend to do that sort of thing now, where they do the lot from start to finish whenever possible - same with the car assembly workers and these companies like Volvo and so on."

Overall, there were no noticeable differences in the amount of knowledge or understanding of the term work group by size of company. And the informed amateurs were little different in their appreciation of the idea. The association between AWGs and Volvo was made in the majority of cases.

The names of various people were associated with the area: Trist and Bamforth 2 mentions; The Tavistock Institute 1; Lynda King Taylor 2; John Bailey 1; Hackmann 1; Mary Weir 1; Paul and Robertson 1. The marked tendency to refer to authors who have been concerned with job enrichment, whereas those concerned with AWGs are less often mentioned, suggest that once again, ideas such as job enrichment and AWGs are not discrete but associated in the minds of some observers. Indeed, it would be surprising if distinctions were made when the generalizing language and style of articles on the subject is considered.

"Why were changes tried at Volvo?"

Job satisfaction	4
Productivity/performance	4
Quality	4
Recruitment	1
Attendance	1
Job enrichment	1
Mercenary goals	2
Monotony	2
Motivation/commitment	2
Labour Turnover	2
Don't know	1

—
24 information from 13 respondents
==

A variety of answers were given to the question 'why were the changes tried at Volvo?'. On 4 occasions job satisfaction; productivity/performance; quality were mentioned; while monotony; motivation/commitment, and labour turnover were noted twice each. Recruitment, attendance and job enrichment were suggested once. Purely mercenary goals on Volvo's part were mentioned twice: "Can't imagine that it was to make the lads happy. You're in business to make a profit, not to make the lads happy." and only one respondent said he didn't know why work groups had been introduced.

Two respondents expressed some reservations about the idea, the overall response being very favourable. Both reservations were roughly on the same lines, one being more strongly stated "I take the view that the average person isn't particularly well educated and moves direction... The greatest failing of people is to make decisions - decision making ability is a rare ability the same that common sense is not a common ability." Elsewhere, the responses to the idea ranged from enthusiastic "The philosophy is terrific" to the more lukewarm "Some merit if it's seen to work - if it is generally acceptable to the workforce. Cannot introduce

it in bits. If it fits the situation, it might result in more job satisfaction." The benefits of the idea were said to be various, thus AWGs resulted in "pride in work"; "you can take people's mind off the drudgery"; "it creates a situation where people get more out of what they do". One respondent gave a more graphic description why he favoured the work at Volvo,

"in engineering I was involved in Work Study, putting these fancy schemes in and all that - I actually did the physical destroying of tradesmen - putting them on to doing nuts and screws, putting on the bolts... I've actually seen them over a period of time, men changing from tradesmen into operators, and it hurt that craftsman's pride as it was hurting mine. For an example, put a man on the line to make central heating boilers and it's soul destroying; take the same craftsman off the line and put him on the central heating boiler which is going wrong and tell him to strip it down and build it up again, then you have a different man. So yeah, there is something in what Volvo say, but whether it's justifiable economically, only Volvo can tell that."

As to the success at Volvo, only three respondents felt that it had been successful: "Given that it got all the publicity, I presume it was"; eight thought not "Because at the end of the day success can only be measured by commercial success and they are not a commercial success... Whatever the motivational benefits of that work..."; and four were doubtful; "some say yes, some no..." and the others did not know.

To summarise these findings, coherent accounts of the work group idea (or Volvo's changes) were given in all cases, the reasons for the changes at Volvo centred on labour retention and increasing the motivation (and through that the performance) of the labour force. Only a minority felt Volvo's changes had been successful, yet there was almost unanimous agreement on the attractiveness of the idea.

WHERE HEARD OF AWGs

The respondent was asked when and where they had heard of the term, AWGs. Memories were vague and many would not even hazard a guess to either of the questions. However, of the 11 who were prepared to give an answer as to when they had heard of the idea, four said recently or in the last year, and a further four said 2-4 years ago. Another three suggested some considerable number of years before, in one case eight years, in another 16 or 17 years ago.

"Can you remember when and where you heard of AWGs?"

When:	Recently/last year	4
	2-4 years ago	4
	a number of years ago	1
	8 years ago	1
	16-17 years ago	1
		—
		11 respondents
		==

Where:	Unspecified articles/don't know	5
	Books/articles - authors named	5
	Television	1
	Film	1
	IPM journal	3
	IPM course	1
	Management Today	1
	Financial Times	1
		—
		18 respondents
		==

As to where they had come into contact with the idea, the don't knows and unspecified articles numbered five; specific books or articles whose authors were named above were mentioned five times; TV by one; a film by another; 3 said the IPM journal and one an IPM course, while one said Management Today and another the Financial Times. So the main channel is through reading - or at least it is the channel which is most remembered or assumed. As one manager in a small brewery said "strangely enough it's one of the things I have read - not a lot about it, but read two or three articles on it, I don't remember where or when." That the emphasis was towards reading is interesting, because, as noted earlier, the respondents did not spend a great deal of time on reading.

When asked if there were any companies in the U.K. which had used the idea, only a minority (9) could name firms while one specified only the industry.

"Do you know of any firms in the U.K. which have tried AWGs?"

Philips	3
ICI	2
United Biscuits	1
Proctor & Gamble	1
Pye	1
Rank Xerox	1
Vauxhall	1
Scottish & Newcastle	1
Shell	1
Financial Institution	1
13	Information from 10 respondents

Only two companies were mentioned more than once; Philips on 3 occasions, ICI on 2. The other firms cited were: United Biscuits, Proctor & Gamble, Pye, Rank Xerox, Shell, Vauxhall, Scottish & Newcastle. Four respondents had either visited or worked for one of the last group of firms.

Particularly noticeable here is the lack of reference to the brewery which had introduced AWGs a few years ago.¹⁰¹ A point which was commented on earlier as striking because of the frequency of inter-firm contact. Given the favourable attitudes to the AWG idea, this lack of mention is even more intriguing. It must be assumed that the brewery's changes in work organisation received neither great attention within brewing circles or in any other industries with which they have contact, nor were publicised by the firm concerned to any great extent. Yet as a respondent in this company remarked "the lads couldn't get on with the work so we had to shut it down. Couldn't work in a fishbowl. Not shut down the experiment, just keep people out." A comment which indicates there was a good deal of interest in the changes. And he went on to say "we're doing our share of going round lecturing - in fact, perhaps we have done too much." It seems then that the information has been available yet has not been picked up. This is extremely surprising given the awareness of the concept and that in at least two brewing companies, consideration had been given to the introduction of AWGs. "It has been thought about... it was just sort of general discussion and comment that was going on in the company as to whether it was relevant. It was talked about in most companies at that time because it was one of the in-things." The interest of this company was not quite as desultory as it seems, a visit to Volvo having been made some years ago by a variety of company members. In another company "I know that consideration was given to it, I remember it now, but nothing developed from it or got off the ground." But in neither of these cases was any reference made to the brewery which had introduced AWGs, suggesting it was from outside rather than inside the industry that such leads are taken. One possible explanation of the lack of knowledge of the brewery which tried AWGs is the geographical distribution of the breweries - the innovative one being the most distant from the other HQs, and being a member of a different

regional association: The importance of geographic location in adopting new ideas has been noted elsewhere (see Piotet, 1975, p.3). The tendency to mention local breweries in inter-firm contact would also support this. However, the existence of the various meetings of the Brewers Society, and the Think Tank could be expected to counter this tendency. The continual emphasis on the traditional nature of the brewing industry may point to one reason why information about innovation is not sought within the industry - simply because it is not expected to be there! One respondent made this point about work changes in brewing "I would say if anybody is, we would be - I see the other brewers as relatively traditional in their attitudes...."

POTENTIAL USE OF AWGs

Whether or not AWGs had been or could be used in brewing was another question put to the respondents. Only two companies had discussed the possibility as noted above. An accurate picture was given, it seems, from one of the respondents regarding the interest of the brewing industry: "Well, I'm sure there must have been some interest but to my knowledge there was never the sort of interest which says we must grab that idea." Another two respondents were considering using the idea "one of the things I sometimes think about is how we could do it in the brewing industry - I'm not sure yet but I think we can." but in the second case it was not being pursued at that time.¹⁰²

Quite a number of the respondents asserted that they already had work groups in their company, e.g. "the brew house has fairly autonomous groupings. In the fermenting room there are about a dozen workers who function as a group" in another "we are trying to get cross-functional teams - I mean the customer/profitability exercise which draws together cellar service, sales, distribution, production - tries to get to operate

as a team, looking at the customer base as their target." Similarly: "you could almost say, have an AWG in a pub and in fact we approach things in that way, we try to involve staff in the running of the pub and to look on it as their pub as much as the manager's... so you're approaching a similar sort of idea although not quite the same." And a final example: "we have one example of group working here - our delivery fleet - they are given eleven hours of work each day and they decide how to get to public houses, which routes, how they load vehicles, how long it takes them."

Excluding the company which had itself introduced AWGs - there were altogether ten claims from 8 respondents that group working - in one form or another - was already in operation somewhere in the organisation - and these were in companies of all sizes. There were two references to cellar/pub service teams; to delivery/transport staff; and in the brewhouse/fermentation room. Single references were made to the following; in bottling, in pub organisation, distribution team, in a move to smaller units. A further four companies had thought or were thinking about introducing work groups.

Given the lack of detail it is extremely difficult to make an informed appraisal of the various schemes which were described. Nevertheless, to call any of these schemes AWGs - on the basis of these descriptions - would be to misrepresent the idea and its complexity. Yet, in each of the schemes there were elements in the method of working which could owe a debt to the ideas embodied in AWGs. Any stronger claim than this cannot be made. To the extent that concepts such as autonomy, responsibility, task inter-change, accountability have been used, there is some support for the thesis that the AWG idea - however and through whatever medium it is conveyed - has had a considerable degree of impact. This is not to say, of course, that AWGs can be disassociated from other ideas which were prevalent at the time. Indeed,

rather the opposite is likely to be the case: that the AWG would not have enjoyed such popularity if it had not been complemented, echoed or at least been compatible with other ideas which were simultaneously 'in the air'.

Of the nine respondents who said that the idea of group working would not be suitable for the brewing industry, the replies given for this ranged from "definitely not" to those who admitted the possibility. Quite a few replies referred to technical barriers, e.g. the nature of the product, the type of machinery used: in size and that it is fixed; not short cycle jobs; the type of production process, and two people referred to the need for a huge capital investment. Some respondents saw possibilities; on the commercial side and in kegging operations. Others felt that the barriers were in the climate of opinion: "too revolutionary an idea"; "I think we've got a long way to go before we could do something like that here"; "I would think management would be terrified of it, certainly ours would."

These reasons for not considering work groups give a good indication of how the idea has been popularly presented: the large capital investment Volvo was said to have made; the association with assembly-line production, in machinery which could be reduced in size or at least adapted to small groups of workers, etc. But most importantly, it was here that the radical potential of the concept was recognised. Indeed, it may be the case that it was those respondents who made no claims of using the idea (again, firms of all sizes) who had a greater appreciation of the concept than the others whose descriptions of their schemes could be interpreted as trivialisations of the idea (accepting that this may reflect media and other presentations rather than some attempt at trivialisation within industry).

COMMENTS ON POPULARISATION

Rather than simply impose some model of diffusion on the accounts of their activities the respondents were asked (when time was available, this was the last question, very much open-ended which might take time to discuss) why they thought particular ideas became popular and how. Undoubtedly there are dangers in accepting common-sense views of the world, but nevertheless the respondents have beliefs about the way they act and why they act which must be taken into account.

The main emphasis was on how ideas become popularised, less information was volunteered on why they were popular, and a few views were also given on why certain ideas did not become popular.

WHY: Firstly, a number of comments related to the attributes of the idea itself: that the idea is 'portable' and can be applied in many different situations; Secondly, it corresponds with other current ideas was mentioned by four respondents to the effect that "it chimes with the times"; "participative age"; "its seeming practicality" or the idea is "attractive and comfortable" to a particular group of people. Thirdly, the presentation and the timing of the idea may be important; "it coincides with a felt need"; "death of scientific management" "AWGs became popular because people were aware there was a problem in motivation - they didn't know how to solve it; there was a book which was marketed effectively and it seemed to be a good idea..." Fourthly, the person who 'pushes' the idea and the institutional background of that person may be crucial. Thus regarding Action Centred Leadership; "It was marketed by the Industrial Society where the well-thought out model was linked up with the preacher par excellence of the industrial world, John Garnett." A similar point was made in relation to John Humble and his Action Learning. Who picks up the idea may be

important as some respondents suggest: "if you have a man placed in a high position, he picks up an idea and has power and influence to make it happen." An instance of this was cited by another manager which also illustrates the random element in diffusion:

"It just happened that Arnold Weinstock saw Reg Revans on telly one night and he said that sounds sensible, I'll ask Reg Revans to come and talk to me. And Reg Revans made an impression on Arnold Weinstock and Weinstock being the man he is and the way he runs his companies, said this will do for us."

Only one respondent mentioned here the role of trade unions which he estimated to be large; "I don't know if we are in any way typical or completely untypical but almost every good idea that we've had lately has come about through union pressure." Or similarly where the idea appears: "I think the FT does have an influence on things" or where the idea comes from, thus ideas coming from the USA are losing their appeal whereas ideas from Scandinavia are more acceptable as it is seen as nearer our work culture in the UK. Fifthly, that the idea should promise some financial return "if the thing can be related in some way to an improvement in productivity or IR, yes, people will go for it, but if they don't see any benefit in the financial sense then they don't adopt it."

The 'why' may be found less in the idea and more in the state of the company: "very often, management are desperate, they are being pressed to do something..." Or it was suggested a number of times that if another company has tried and was successful using the idea then: "I think the learning principle applies that if some major company has taken the plunge the rest will try it without trying the water first." "I think a company like (ours) would be influenced because of a company like ICI were doing things, or if 'Weinstock's into this, he's not doing badly is he?', there must be something in it!"

If it is a major company which has tried some scheme this might account for the lack of diffusion of AWGs in brewing because the company which tried the idea was very much the smallest of the Big Six. However, it wouldn't explain that much because other people's experience matters and is discussed according to a training manager in a medium brewery:

"Like the Institution of Training Officers where you have a regular monthly meeting ... we tend to talk about what other people have done - we tend to say have you tried this idea or that idea and if they say it was a complete waste of time, you may not stop doing it but it certainly gives you food for thought - and you look at it again before you go any further."

More generally "Once they've proved it can work in a certain area then other people jump on the bandwagon and try it - where they see success they obviously try and breed another success in the same sort of area."

But who is in the same sort of area? Would the brewers take a lead only from other breweries or from industries noted for their innovativeness like ICI and Shell? To return for a moment to work organisation changes, a variety of companies were mentioned; United Biscuits 3; Philips 3 and their subsidiary Mullards 2; Rank Xerox 1; Shell 2; Vauxhall and ICI 3; Proctor & Gamble 1; Pye 1. While there were a range of companies and not all large, they were all household names. In turn the names mentioned reflected in part the previous experience of the respondents, 8 of whom had been employed in large or well-known companies and that experience in turn meant the existence of contacts in a variety of industries. Recalling earlier statements that, for instance, a respondent would feel more at ease in approaching firms outside the industry there was only one remark about talking to other brewers, supporting the thesis that it is not brewing companies who are watched. Indeed there were a few negative statements in this respect: "... brewers are a bit conservative... I think possibly because they've been leading a sheltered life, breweries always seem to do relatively well. They never do badly. It's a pretty level kind of business - there's never any great booms or great traumas."

Another aspect which has not yet been mentioned and which a number of respondents suggested was important is activities in leisure hours. One respondent off handedly mentioned "contacts with other large manufacturers or other large organisations in the area - you know, clubs and that sort of thing and I think that would be the area one would get most information" "I personally have no external contacts of any calibre that I would regularly use other than personal friends - I mean there are some personal friends whose range of skills I respect with whom I would throw around issues with..." And one respondent said as:

"I suppose a sort of critique of your approach. I think a lot of what influences me comes out of my social contacts and my personal and private interests. My wife is a probation officer so I have a very heavy influence from that sort of contact, and I'm involved heavily in the church - and I don't think your line of questioning would get into that area with everybody."

That there is a 'flavour of the year' approach in some companies according to one respondent helps account for the turnover in ideas. Another explanatory factor is the over-simplifying of ideas in their presentation:

"I think if the sort of main theme happens to coincide with a felt need, everybody will grasp at it. It's only of course when they discover later that the thing is an oversimplification and that, in any case, their own problems are much more complex they realise the match isn't as good, and therefore, things get dropped."

And perhaps the earlier comments on jargon in articles points to a vicious circle: simple articles wanted and simplified ideas presented, etc.

The mechanics of how ideas are picked up was also referred to:

"You've got an internal set of priorities - a profile because you actually add to them and ... bang! there's a match, and you can't tell in advance. One paper you look through, there's nothing in it. Another I look through and there are six or seven items, bang! that are actually ringing all those bells."

"you read about something then its often reinforced."; someone mentions the same idea "so you get a coincidence like that and it maintains your interest -

I will certainly follow it up and see if there is anything in it, but I liked the article and I was wondering how it could be used." While there might be an element of post facto rationalising here, the notion of serendipity is one which needs to be borne in mind. And the notion that ideas are 'in the air' is reflected in a comment by a respondent who knew nothing about the social or behavioural sciences, yet said of job enrichment "again, it's one of these things that just rings a bell without any personal knowledge or digging into it."

Thus the respondents, on the whole, echoed many of the aspects of diffusion mentioned earlier. However, it is the repeated comments on aspects such as 'it chimes with the times'; 'government noises'; 'it's a participative age' etc. which reflect the popularisation which has taken place. It is a popularisation which particularly applies to ideas, to knowledge rather than practice, and it is possible that the impact will be felt in the longer term, by affecting what future ideas are taken up and adopted, rather than immediate impact in the short term.

Resumé: The contradictions between the friendliness and competitiveness of the industry are suggestive of a changing industry where the ever-larger companies, in becoming more dominant, are challenging the 'olde-worlde' traditional atmosphere. The large amount of inter-firm contact suggests that diffusion would be easy within such an industry yet topics such as AWGs do not seem much discussed. However, this finding needs to be qualified to the effect that at top level talks between companies - at the Think Tank - such topics may well be, and seem more likely to be, discussed.

It was found that the social science resource persons, as expected, are normally located within the personnel function but that the amount of social science input they had received was not great. This may not be crucial as it was found that generally those people who had had formal contact with the social sciences were very sceptical as to its value. Indeed, it was a lack of formal input which appeared to engender positive attitudes - hence the Informed Amateurs. Nevertheless, there was a general association made throughout the interviews between behavioural/social science and innovations. Of course, whether or not innovation is seen as a good or bad thing in an industry which so prides itself on being traditional and conservative is a moot point. Overall, views of the social sciences were not overly high but were less negative the larger the organisation. While the respondents were aware of permeation having taken place as regards the social sciences, changes in work organisation relating to social science were few. No distinction was made between behavioural and social science, topics dealing with industry being lumped together.

There was a considerable amount of knowledge about, and a good deal of enthusiasm for, AWGs yet only a few changes in work organisation owed a possible debt to work group ideas. At the same time, no mention was made of changes tried in other breweries suggesting that it is technical not 'social' matters which are discussed. If awareness and knowledge of AWGs is used as a benchmark as to how social science ideas reach people in industry, it seems that it is through reading. Despite spending little time on reading, it is enough for managers to pick up current ideas. But knowledge of an idea does not necessarily bring with it any attempt at implementation. Perhaps this is connected with the rather poor light in which innovations are seen, being associated with companies with declining fortunes and with firms who are in trouble. As regards popularisation, a number of interesting comments were made which highlighted the complicated processes of diffusion and adoption of ideas.

DISCUSSION

A number of points clearly emerge from these interviews.

There are undoubted advantages of size. Individually small, the benefits of size are compounded when the total information input is considered. In graduate recruitment and training, management education, publications received, time spent reading, paying subscriptions, etc. the larger companies have the edge. The well-worn arguments of the diseconomies of scale are contradicted here. The larger the organisation, the better the information scanning and input. The large companies have an enviable headstart over small firms in having the resources to expend on information gathering. Relying heavily on outside organisations, small companies are disadvantaged as it is more time consuming and expensive to have to go outside the company, possibly limiting the amount of contact. The greater ease of contacting colleagues, the greater likelihood of informal exchange of information, the less obvious expense of using internal resources, etc. all imply a greater potential information exchange and diffusion within large companies.¹⁰³ While the large companies had developed their internal resources and the small companies had not, the medium companies seemed to be in the process of developing their resources. Evidence of this was especially strong regarding management training and development and in the presence of informed amateurs in 2 medium companies. The implications of the advantages of size are that social science information is more likely to be picked up and acted upon the larger the company, given the greater likelihood of specialists being present in the organisation. The presence of someone in the organisation who has sufficient knowledge and interest in the social sciences to be able to monitor potentially relevant information for the company is obviously crucial. There was no such person in the small brewing companies.

The amount of contact between brewing companies at all levels is notable. The impact of such contact is apparent in the high incidence of adoption of various programmes and training schemes. But it is debateable whether the contact fosters the diffusion of social science information. Topics for discussion centre more on technical than social aspects. However at the top levels it seems that the social aspects are discussed, and given the findings that changes tended to be initiated from the top, the importance of contact at this level is obvious. The existence of such contact means that individual companies may be alerted from sources other than those they scan for information. Given that there is greater contact between the large companies - in the form of the Think Tank - the advantages accruing to the large companies increase.

Associated with this is the obvious importance of personal contact - of talking to people at first-hand. It is a factor which has already been found to be important in the reception given to mass media 'messages' (see Katz and Lazarsfeld 'Personal Influence'). It must also be asked if personal contact is important in the reception of messages from other sources such as conferences, information-giving organisations. The evidence here supports this suggestion. Elsewhere the importance of personal contact in industry has been noted e.g. Aguilar "the relatively heavy reliance that managers place on their personal networks of communication (both private and organisational)." (1967, p.94)¹⁰⁴ The making of contact at conferences and courses, having individuals in other companies with whom problems can be discussed and information exchanged, and the existence of groups of people who act as information resources for two HQs are undoubtedly important. The extent to which information gained from impersonal sources has to be evaluated in the light of personal contact, and information not so evaluated is disregarded, is not known. It may be that, as the diffusion studies suggest, early adopters rely less on personal sources and more on impersonal sources for information. No evidence was obtained here to either support or refute this.

Another interesting finding is that despite repeated emphasis being made on the traditional, conservative, friendly and open nature of the brewing industry, there was a continual reference to competition. This was more noticeable in the larger companies and among the younger managers. But the existence of this competition meant that inter-firm contact was conducted cautiously with some information being withheld. The contradictions found here are likely to grow as the size of brewing company increases with the accompanying growing diversification of activities. In turn, the increasing presence of big business with personnel unfamiliar with the traditions of the brewing industry may mean a growing awareness that in an industry which has been run rather like a Gentleman's Club, not all the members are now gentlemen. Perhaps a reduction in inter-firm contact within the industry will result in greater contact with other industries (with whom at least one respondent felt more at ease in discussions) and a less insular and closed industry, allowing a greater flow of information between a variety of industrial spheres.

Interestingly, formal training in the social sciences seems to be counter-productive in fostering a positive response to the social sciences. It is the informed amateurs - those whose interest in social science is more in the nature of a hobby than an occupation - who were most receptive to social science ideas. Similarly, it was noticeably the younger respondents who criticised social science, suggesting that 'tougher' attitudes to the social aspects of work may only mellow with experience. While attitudes may reflect the company climate of opinion - there being more positive attitudes the larger the company - negative attitudes were expressed in all sizes of company. Perhaps these negative attitudes are a reaction to the overselling of the social sciences in the late 60s and early 70s, and to the public image which they have acquired being commonly associated with socialism, social-work and trendy lefties. Perhaps the negative views of managers merely

reflect the company practices, the managers seeking companies which reflected their own opinions, just as the informed amateurs appeared to seek companies in which their views would be approved and given a chance to be put into action. Nevertheless, that formal inputs of social science results in antagonism to the subject area must give food for thought to those who seek to increase the behavioural or social science input in short courses for managers and others. In other words, the missionary activities of academics such as sociologists to 'spread the word' may be counter-productive.

Behavioural and social science was equated with innovations throughout the interviews. This association may mean that organisations (or someone in them) which use behavioural science wish to appear innovative. As Ford & Appleby note "using social science is seen as a selfconsciously innovative and progressive activity." (undated, p.6) However, innovativeness may not be viewed positively, especially in an industry proud of its traditions and conservatism. Support for this comes from the comments which linked changes tried in brewing companies with declining fortunes and firms which were under attack by others. In an industry where profits are relatively safe, changes, whatever their nature, may be viewed with apprehension. However, there may be a wish to innovate, demonstrated by the popularity of a succession of various techniques and packages in the industry. Innovations involving social science may be eschewed due to the lack of guidelines for implementation and evaluation, problems not encountered by 'packages'. The wish to innovate may not be strong enough to tolerate the uncertainties of using social sciences ideas. Nevertheless, the packages have a common feature in avoiding real change. Or at least change is encouraged in individuals but not in the organisation. The problems involved in judging what is an 'innovation' are obvious here. But the prevalence of packages in brewing and in process industries might be an indication of a general reluctance of organisations to change and an attempt to maintain control over the organi-

sation and its environment by avoiding the uncertainty and unpredictability of open-ended change initiatives such as those from the social sciences. In turn, this implies a less than rosy future for social science if by its very nature it threatens the stability and predictability of organisations.

The focus in organisational interventions was very much on managers. Packages like Coverdale, ACL etc. are no more than the palliatives of job enlargement and job enrichment offered to shop floor workers in previous years. All that has happened is that the focus for improving performance (and hence profitability) has shifted from the shop floor to the ranks of management. But here again, there has been no real attempt made to change fundamentals - change is only at a superficial level, adapting individuals to the system, not the other way round. That managers, such as those being sent on Coverdale courses (all levels except the top executives) are only employees becomes more obvious here. Some changes in their attitude and in their way of working is required in order that the organisation can function more effectively, and by extension, more profitably. Just as in AWGs where shop floor workers can be seen as managing themselves for management, so managers who send colleagues and themselves on Coverdale courses are managing themselves for the owners of the organisation. The difference is not great - in both cases the individuals accept the employers' view of the world - of the need for profits to be maintained, and for efficiency and effectiveness to be maximised. The demands of capitalist enterprises are known and accepted. The decreasing ability to maintain high profits, the trend to ever-larger organisations and the growing competition in the industry, all ensure that those in control of the organisation look ever more closely at the ways in which improvements in profitability can be made. Hence the increasing focus on managers. To the extent that social science can be used to help organisations realise their goals of maximising resources, then they may well have a lucrative future. That it is not managers but those who direct what

managers shall do who are important becomes apparent here and it is with their attitudes to social science that attention might more fruitfully be directed, in discussions of the future for the social sciences.

Information about AWGs came primarily from reading. This was surprising given the small amount of time spent reading work related literature. Yet on reflection, given the saturation coverage which the topic of AWGs received, it is perhaps not so surprising. A distinction does need to be made regarding channels of diffusion between alerting attention to and seeking further information on a topic. Thus information giving organisations, management education, academics, etc. do have a role to play in diffusion as regards alerting attention but their relative importance is hard to judge as regards further information where personal sources of information may be more sought out. Undoubtedly, the environment is being scanned by all sizes of company, but the focus and amount of that scan will vary. For instance, management education may be an important source for medium companies; larger companies may rely more on published information; while the small companies may place greater reliance on external information giving organisations. Scanning preferences may be affected by other factors such as geographical location, company predilections for keeping up with outside contacts; department and divisional structures; as well as individual preferences. Thus, it can be seen that the various sources of information and diffusion reach different audiences depending on a number of factors, not just the size of company although size is obviously a highly relevant aspect.

Despite unanimous enthusiasm for the AWG idea it was surprising that so few changes in work organisation, which might reflect the impact of the idea, had been tried. Although the respondents' knowledge of AWGs was not extensive, in general they appeared aware of the problems, the reasons for implementation or the possible repercussions. Having asked about the

applicability of the idea to the brewing industry it was obvious that in most cases the idea had not been considered. This begs the question 'Why not?' Perhaps it is merely the association made between innovation and declining fortunes. The success of Volvo's experiments was not taken for granted, and it may be this factor combined with the 'foreign' Scandinavian label which suggested caution and non-applicability. It is possible also that no consideration was given to the idea because it had not been translated for the perceived idiosyncratic conditions of the brewing industry. Nevertheless, there is no automatic association made with reading an article which reports a successful experiment and considering using that idea in one's own organisation. What the crucial intervening variable may be is not known. It may be that here again it is the need for first-hand experience, of personal contact which is missing and that articles and other formal information remain merely as interesting snippets without the reinforcement and backing of personal contact. At the least, however, it appears that unmediated information does not have any great immediate impact.

Social science does not appear to enter organisations through the recruitment of social science graduates. Indeed, there is no evidence to indicate that a social science input per se is deliberately sought in any of these companies. While this might reflect a lack of active interest, respondents were aware of the permeation of ideas such as those from social science into the attitudes and practices within the industry. Nevertheless, it cannot be maintained that there is a spellbound managerial audience awaiting pronouncements from social scientists. In turn, the service to those in industry by social scientists is not through direct usage but rather through infiltration.

Attitudes to academics were found to be ambivalent. Professors are 'collected' yet academics in general are denigrated. While contacts were maintained with academics, little use was made of them, and the impact of academic consultants dubious. However, insofar as academics contribute to management education, write books and articles, they certainly have a role to play in diffusing social science. One point is clear and that is any contact with academics is very much on management's terms. Academics have to have faces that fit, and track records which commend themselves to management. The attitude of those in industry indicates they are well aware who holds the purse strings and they are quite able to move their patronage elsewhere. Sure of their (financial) charms, the respondents would have little hesitation in contacting academics, indeed they appeared to derive wry amusement from their professor-collecting! Cocking a snook at a group of people who traditionally have scorned their activities, the attitudes of managers are perhaps understandable. The implication, however, is that even though great use is not at the moment made of the social sciences and of social scientists, there is no reason to suppose that this will always be the case given that the contacts are there. A declining economic climate could mean that the demand for the services of social science will grow as the need totally to utilise resources grows. On the other hand, the reverse might happen. In times of economic stringency, the 'frills' such as attending to the social aspects of the organisation might be the first to be jettisoned. A bleak prospect for any academic seeking to be a 'servant of power'!

The argument that social science can be used to help realise the goals of industrial enterprises, i.e. raise profits is worth looking at. It was obvious that attention in following the activities of companies was caught by the profitable companies rather than the innovative. This is hardly

surprising given that profit is after all the name of the game. However, there seems overall to have been little association made between greater profitability and attending to the social aspects of work organisation. Rather, attention to the social aspects seems to be associated with improving work and its conditions in itself, with few direct links being made with profit per se. It may be that the criteria of profit or at least that 'it must pay its way' is taken for granted - that aspect being so obvious that it is redundant to voice it. There was however no automatic association however made between using social science and profitability improvements.

While HQs enjoy a strategic position as regards the adoption and approval of programmes which have a social science input, the attitudes and knowledge of OC personnel are important nonetheless.

1. Decentralisation, while fostering self sufficiency, is also likely to foster resentment of HQ so that increasingly antagonism to HQ directives and interference will occur and less use made of their information resources. This implies that uses of social science at OC will depend on the attitudes within the OC.
2. Even if autonomy is not ceded to OCs, the reception which greets planned social science applications at OC level may be crucial. Antagonism or enthusiasm for the ideas may make or break such applications.
3. Similarly, the prevailing climate of opinion within the OC will be known at HQ affecting whether or not changes are suggested. Thus in one brewing company, it was said of the OC chosen as a guinea-pig for the introduction of changes in work organisation: "If it was possible for a (the Group) company to declare UDI, it would be (x). They've got good ideas but they're not too sure how to put them into practice... So I thought, they of all the companies are receptive to these ideas and so I went and saw them."

4. To the extent that personnel are transferred around the group, their attitudes of knowledge will be important.

If then, the current trend to decentralisation continues it means that the social sciences will have a less receptive audience at OC level given the more negative views of social science expressed by them. In turn the potential demand for social science is likely to be substantially reduced. The resources at the disposal of OCs are very much less than those at the disposal of HQs and the devolvement of responsibility for changes and resources allocation to OCs may well mean less consideration is given to social science applications insofar as they may be expensive and time-consuming, as well as unpredictable.

Does the concept of conservatism help us much in looking at the reaction of people in the personnel function in brewing to industrial sociology? It seems it is. Certainly there is a slowness to change. Innovation is viewed sceptically and associated with an organisation being under attack. Attitudes to management education are mixed and, combined with the stress on the benefits of practical experience, not favourable to the inflow of new ideas. Pride in the traditions of the industry and the high degree of inter-firm contact underpin the Gentleman's Club notion of the industry. It does not seem to be an industry in which change is especially welcomed although some medium companies in particular, do seem to be implementing programmes to strengthen the organisation. There is an undoubted imitation of each other in the programmes and packages which are adopted (unfortunately, it was not possible to identify the fashion leader, if there is a constant one, or why that particular company takes the lead). It is possible that it is the lead of some other industry which is followed - no respondents associating or asserting innovativeness with any brewing company.¹⁰⁵ Indeed, one company which had innovated was aware of being at the forefront in brewing yet not innovative in relation to other industries.

It appears then, that brewing is not an industry which particularly favours change. On the contrary, it seems to be somewhat resistant to change regarding the social aspects of the organisation at least. An association can perhaps be made with size: it was the larger companies whose scanning activities were most extensive and who were most likely to have considerable contact with other industries through which the attitudes dominant in the brewing industry would have less impact. Whether the attitudes to new ideas and innovations in other industries are much different from those held in brewing is debateable. It would have been useful here to have been able to compare brewing with other industries. In the small companies, there were predictably, more conservative and traditional views expressed yet some attempts at changes in work organisation had been made although these were normally in relation to an increasingly competitive market situation. The medium companies - being particularly squeezed in the current struggles by the big companies to increase market share - were being forced to innovate in reply and this took the form of organisation development. It tended, however, to be change under threat and does not contradict the notion of conservatism. Although the large companies appeared to be more amenable to change this must be seen in the light of their patently greater ability to accommodate change. Nevertheless, there was no evidence of change for change's sake, wherever and whenever it had been implemented, some pressure was being exerted - from markets, labour, profitability, etc. Thus it seems not unreasonable to describe the brewing industry as conservative. And the concept of conservatism does help bring into relief the reaction to change which occurs in the industry.

Summary and Conclusion

SUMMARY AND CONCLUSION

Before looking more closely at the implications of the research findings, a brief outline of the foregoing chapters will be helpful. Chapter One reviewed the research which has been carried out in the three interrelated areas of diffusion: production, linking and consumption. The review indicated that as regards 'production', conservative forces are exerted on the academic community. Firstly, from within the academic sphere, pressures may be brought to bear through the personalised communication system; the relationship between certain journals and some universities; the monopoly enjoyed by senior academics. Secondly, pressures from government can be exerted in a number of ways such as through funding, research priorities, educational policies, the incorporation of senior academics. Thirdly, industry can influence the product of academics directly through funding in various guises and involvement in the running of universities and less directly through the strong lobby it enjoys (reflected in demands for universities to respond to pleas to work in the 'national interest'). While the production of knowledge was not investigated in the research, the examination of research in this area underlines the point that knowledge, ideas or theories presented from the academic sphere are very much a mediated product. As a result, their potential to offer any real challenge to the existing order is limited.

The examination of factors influencing linking suggested a number of aspects worthy of further investigation. The multiple roles of linkers and their corresponding lack of specialisation; the role of, and constraints imposed by, organisations; linkers' continued need to reach and appeal to their audience, in turn affecting what and how topics are presented; the marginality of linkers and the effect on their activities; access to and

use of different channels. One aspect which most crucially affected the design of the research emerged in this section: the problems involved in trying to monitor 'linking'. The diffusion of an idea is not necessarily, or even often, in 'package' form. It may just as easily, and perhaps more effectively, be diffused through permeation, making diffusion less visible and harder to trace (or attack). The linkers' distance from, and relation to, the consumer varies in turn emphasising once more the artificiality of the distinction.

A great deal of research on 'consumption' has taken place and even more lines of enquiry were suggested here than in relation to linking. Thus, many important aspects were suggested: the training, attitudes and location in the organisation of the gatekeeper; the information flow into organisations; the use made of external information sources; type and structure of company; informal vs. formal sources of information; reasons for firms innovating; the attractiveness of certain ideas; questionable impact of formal inputs such as courses; attitudes to academics, etc. etc. This chapter concluded that none of the frameworks offered were satisfactory, no cognisance being taken of political, social and economic factors. Diffusion was found to be a social process and one from which discrete elements could not be abstracted. While lines of enquiry had been suggested, the present research remained, above all, an exploratory study.

In Chapter Two, the idea of AWGs was examined and discussed. Originally presented by industrial sociologists, the ideas behind AWGs came from working practices in coal-mining in North East England. An analysis of the components of the AWG idea showed that benefits from the idea were weighted in favour of management. Thus management could enjoy greater flexibility in, and less easily disrupted, production. It could eliminate one level of management, more easily cope with absenteeism and encounter a less antagon-

istic workforce. The workforce on the other hand gained no greater control, the relationship between management and workers remaining fundamentally unchanged. However, insofar as autonomy may become a factor of relevance in the bargaining of the workforce, then the notion of AWGs could be potentially radical. For any implementation of AWGs to have conviction, at a minimum, the foreman's role must be changed allowing a greater measure of autonomy to the workforce.. The analysis of AWGs may not be central, it being possible that the general notion of AWGs may be diffused rather than the nuts and bolts.

References to publications in some way concerned with AWGs were collected and discussed in Chapter Three. A sample of these references was analysed. A predominance of magazine/journal articles was found with academic authors being in greatest evidence. From the sample it emerged that the positive aspects of the experiments were stressed, the unsuccessful went unreported. A lack of information on the duration, extent and content of changes was evident while a few companies were prominent. Similarly, a handful of people were prominent in presenting the idea, as were two organisations, the IPM and BIM.

The missionary presentation, lack of concrete information and the tendency for the publications to be uncritical were findings in broad agreement with three earlier studies in related areas. The de-radicalisation of the concept of AWGs was borne out by the aspect most mentioned by respondents in the brewing industry: that of the whole task. Chapter Three was concluded by noting that it is not surprising that managers abstract techniques rather than changes in philosophy from the social sciences.

In Chapter Four, an examination was made of over 100 information providing bodies. A substantial proportion of these had, or knew where to obtain, information on industrial sociology and AWGs. However, organisations catering solely for the brewing industry had no output on industrial sociology or AWGs. As sources of information for these organisations, the ITBs had little impact while that of the WRU was greater. The tendency for industrial sociology to be incorporated into courses makes its diffusion less easy to trace than that of AWGs which is more visibly presented in publications. The information on industrial sociology and AWGs given by these organisations varied in amount and level. Similarly, the ways in which the organisations provided their information giving services varied, but of the ten organisations looked at in greater detail, three were found to use 'networks'. It emerged that a translation from industrial sociology to behavioural science was made here. As to opinions about AWGs, these varied from boredom to enthusiasm. An important finding was the importance of networks and interconnections between organisations and a method of working in which personal influence could be accommodated.

ITBs were the subject under scrutiny in Chapter Five. Found, not surprisingly, to reflect their industry, the impact of ITBs depends on their expertise and success in communication. Again, personal contacts emerged as crucial and it was individuals rather than the ITBs who were important both as information sources and in pursuing topics such as AWGs. Most ITBs made some use of industrial sociology and a good proportion had been involved in an implementation of AWGs. The terms behavioural science and industrial sociology were used interchangeably. As also noted in Chapter Four, opinions as to the popularity of AWGs varied, there appearing to be some continuing interest. While the ITBs undoubtedly made some impact, it was suggested that this is negatively affected by the government base.

The range of contacts which ITB personnel had with educational institutions reflects the ITBs' ambiguous position between industry and government. The stress on the need for industrial experience was accompanied by some antagonism to the theoretical and to academics, hence the incorporation and disguised presence of industrial sociology in their activities.

Chapter Six looked at linkers, mainly journalists and consultants. A large part of their various activities related to publications. The topic range in publications was limited by the influence of other publications, journalists' movement within the various media conveying norms, etc. and by the predilections of editors and audience being respected by writers.

Consultants do not play a large role in diffusion and they are not often innovatory or associated with changes in work organisation. The impact of the Tavistock, WRU and ITBs is mixed. While the first mainly reaches large companies, the WRU lacks impact and the role of ITBs in diffusion is not large. A group of 7 'senior fellows' were important for the diffusion of AWGs: individuals rather than organisations. These individuals had, however, close contact with the Tavistock and WRU. Personal contact - often through networks - emerged as crucial in linking activities. As in organisations and ITBs, the need for practical experience was stressed and theoretical knowledge not highly rated. Once more the transition was made from social to behavioural science, in which there was only limited interest. Opinions of management in the U.K. were low. It was large companies which were thought to be most receptive to the social sciences. Although not itself enjoying much popularity at the moment, the AWG idea was felt to exert an influence on currently popular ideas.

Interviews conducted within the brewing industry were the subject of Chapter Seven. A number of aspects relating to the diffusion of social science within the industry were examined. HQs rather than OCs act as gatekeepers to social science. Social science does not seem to enter organisations through graduates. The impact of management education (and any social science input it contains) was not apparently great although its importance may have been underplayed. Under half the respondents were IPM members. A number of respondents had experience in large innovative companies. Larger companies enjoyed a number of advantages over smaller companies in a variety of ways: number and range of organisational affiliations; amount of management education; time spent reading by managers; information circulation within companies; contacts with academics. The 'collection' of professors was discovered despite generally negative attitudes to academics. The IS, IPM and BIM appeared to be the most important information giving organisations. Management consultants were not highly rated although a few had been involved in changes which could have included a social/behavioural science component. Two highly informed groups of consultants were used in two London HQs.

Personal contact was again discovered to be important. In the often-stated very traditional industry, inter-firm contact is high yet despite claimed friendliness, comments relating to competition were frequent. Despite the contact, topics such as AWGs are not much discussed, although they may be in top level contacts, e.g. the Think Tank. Social science resource persons tend to be in personnel but little social science input was found. Formal contact with social science led to antipathy to the subject amongst some respondents while 'informed amateurs' were most enthusiastic. Positive attitudes to social science were related to size of company as was the strength of association made between social/behavioural science and innovation.

Despite permeation of social science findings, few related changes in work organisation were discovered. Again, behavioural science and social science were used synonymously.

Despite enthusiasm for AWGs, few such changes had been tried, or were known about within the industry. It was suggested that 'technical' rather than 'social' matters are discussed in inter-firm contact. Little time was spent on reading yet it was by reading that managers kept themselves up-to-date. Changes within organisations appeared to focus on managers rather than the shop-floor workers and there was evidence of 'fads' in such schemes.

The diffusion and popularisation of ideas is an area of study which has received scant attention from industrial sociologists. For this reason the present research, although exploratory, has to make stronger assertions than warranted, perhaps, by the number of respondents. This is hard to avoid in the absence of other data. Assumptions as to the potential 'usefulness' of industrial sociology are implicit in many activities. The inclusion of sociology in management and other courses, and pleas to trade unionists to address themselves to research findings on the organisation of work illustrates these assumptions. Obviously, the assumptions were well worth investigation.

Most clearly, the extent of the interdependency and interconnections of the process of diffusion have been shown in the present research. Similarly, diffusion is much more complex than any one-way flow conceptualisation suggests. There is no straightforward 'progression' of an idea, rather it is a continually changing entity influenced by a multitude of factors. It has become apparent that no one part of the process can be studied satisfactorily in isolation. The separation is too artificial and causes too much

information to be lost. The multiple roles and varied activities of many participants underlines this point. It is an aspect, however, which creates problems for research. The need to examine the continuous chain of diffusion means that many disparate areas have to be investigated. The wide focus makes in-depth research difficult within the limited resources and time of a Ph.D. research format. Nevertheless, this exploratory study has helped clear the ground for further research. It points, for instance, to the need for comparative work in other industries; to closer analysis of organisations and individuals who inform managers; and to a systematic investigation of networks within the industrial sphere.

Complicating any investigations of diffusion is the finding that industrial sociology and AWGs have been diffused differently. Industrial sociology has been incorporated into courses while AWGs have received more attention in publications. The less visible attention given to industrial sociology means that its impact is easy to underestimate. Obviously, industrial sociology does have an impact: it is incorporated into the activities of many linking organisations and individuals. Yet that incorporation means that consumers are not necessarily aware of its presence. Industrial sociology is not a phrase which trips off the tongue of most managers, the term used by them was behavioural science. It was repeatedly found that it was linkers who confused or at least interchangeably used the terms. (This confusion of terms compounds the difficulties in tracing diffusion). The disguised presence of industrial sociology means it will meet with less initial resistance and its potential impact is correspondingly increased. Given that the word 'sociology' does not always draw a positive response from managers, the confusion of terms could mean that topics within the scope of industrial sociology are more easily presented to managers. Yet it is not obvious why no clear distinction between industrial sociology and behavioural science is made by many linkers. Could it be that, from their

perspective at least, the differences are minimal? The origins of research which focusses on aspects of industry may be irrelevant for linkers. It is, however, linkers rather than managers who pick up the output of industrial sociologists. It is linkers who confuse the terms underlining by extension the role they play in diffusion.

It appears that a formal input of social science is dysfunctional in engendering positive attitudes to the subject. The implications of this for the future of sociology departments and those teaching sociology are obvious. The ideas of social science seem to be resisted. But while there was no great evidence of AWGs being applied in industry, there was nevertheless a substantial amount of enthusiasm expressed for the idea. The difference may be accounted for by the amount of challenge which they present to the audience. To adopt the perspectives of industrial sociology may require a substantial change in management attitudes whereas AWGs may present no such challenge. Of course, the negative associations commonly made with the words 'social science' and even more with 'sociology', are not likely to provide a sympathetic audience. However, the contradiction between managers' scorn of sociology and the plausibility of a 'Servants of Power' argument is not as great as it appears. Industrial sociology does reach managers, it is included in courses, etc. and incorporated into the activities of many linkers. That industrial sociology input, however, is disguised both consciously and unconsciously by linkers. Linkers' perceptions of their audiences is related to that disguise. Thus managers receive but remain unaware of the reception of some sociology. However, the conscious use of sociology or social science by managers is limited, being restricted to large, U.S. or technologically advanced companies. The importance of 'flirting' with academics must not be exaggerated. Such contacts may not be made with the ulterior motive of 'use' but with the ulterior motive of prestige by association.

The presentation of AWGs has tended not to reflect their radical potential. Instead the AWG idea has been deradicalised in the way it is presented in publications and in the way it is perceived by managers in the brewing industry. It is the aspect most useful to management - that of a whole task, of doing a job from start to finish - which the managers stressed. It is the aspect which could overcome two of management's most pressing problems: demarcation lines and a flexible workforce. Despite the favourable and prolific presentation of an idea which could (apparently) help management achieve its goals, that idea has not been taken up in practice to any great extent. Why not? The way in which AWGs has been reported: uncritically, with a lack of detail or attention to the realities of industrial life must help account for the lack of applications. It may be asked to what extent the idea was presented as usable or merely a novelty, an oddity, which was divorced from the 'real' problems of industrial operations. The concept of AWGs was not always 'deradicalised' in the publications yet managers' simplified notions about the idea suggests that other sources of information such as courses and seminars have also deradicalised the AWG concept.¹⁰⁶ Though not widely used, the idea of AWGs is well known. While the level of knowledge reflects the notion rather than the nuts and bolts of the idea, that does not render it uninfluential. Indeed, in Chapter Three, it was concluded that a continuing interest was evident from the publications in reversing the trend of the fragmentation of tasks. Whilst the idea of AWGs may have waned in popularity, this surviving concern illustrates one of the ways in which the ideas continues to exert influence. Although the changes in work organisation which had been tried in the brewing industry reflected a Human Relations approach as much as AWG ideas, as noted earlier, the perspective which informs both may not be dissimilar. Once again, the difficulties in disentangling various ideas are apparent. The presentation of AWGs required no substantial alteration to the received

ideas of managers - the view of the worker which predominates in the publications is a limited one. Despite the radical elements being played down, the presentation of AWGs as one more idea for improving work adds weight through attention alone to the need to consider such aspects. Similarly, to the extent that one or two components of any idea are new (or presented in a novel way), then they can help the acceptance of future ideas. Despite the lack of applications the great attention paid to AWGs will in turn help set the scene for, and foster the acceptance of, other ideas, in the same way, attention paid to the Human Relations movement helped bring about a climate of opinion which would render the managerial audience more receptive to the notion of AWGs: "even when an idea dies in a particular form, it may continue to influence succeeding ideas." (Schon, 1971, p.138). Thus, again it might be possible with hindsight to point to the influence, and hence use, of specific ideas but it is an influence which it seems impossible to predict.

One possible reason for the lack of take-up of the idea of AWGs in brewing is that the idea runs counter to one which has been widely accepted in the industry - Action Centred Leadership. Concentrating on the leadership function - including that of supervisor - the adoption of ACL programmes may render logically impossible the adoption of an idea which seeks to erode the supervisory role. Thus commitment to one idea may effectively prevent consideration of another. This, of course, begs the question as to why ACL should be used rather than AWGs in the brewing industry - a question which could easily, though not necessarily correctly, be answered by pointing to the traditional nature of the industry. For instance, 'novelty' may not be such an attractive feature to managers. The limited sympathy to, and use of, the social sciences may surely reflect the association they made between social/behavioural science and innovation.

On the other hand, despite the enthusiasm for the AWG idea, the lack of consideration of its application in the brewing industry may not only reflect the presentation it has received. It may reflect a fear of such ideas because their outcome is less predictable. There is obviously a wish to try new ideas in the brewing industry, hence the prevalence of various packages. But the use of such packages with their focus on individuals is unlikely to threaten the organisation or present a challenge to its structure. The open-ended and ambiguous potential of ideas which emanate from the social sciences may well be an impressive reason for their non-adoption.

Opinions of the social sciences and sociology are not overly high. This explains firstly why social science inputs into courses, etc. are disguised, and secondly, why the translation from 'social' to 'behavioural' science (with its more positive connotations) is so frequently made. Why opinions of the social sciences are not high is unclear. Certainly a formal input of social science does not engender attitudes favourable to it, and the animosity of economists to sociology is apparent. The common associations made with sociology and the social sciences account for much of that animosity. There may, however, be a discrepancy between what managers say about social science and the influence it has on their attitudes and practices. Social aspects of work organisation have received a surprising amount of attention in brewing, suggesting that industrial sociology and the social sciences have had some impact. This relationship is by no means proven and makes predictions as to the potential impact of industrial sociology most uncertain. If techniques such as AWGs can be abstracted from industrial sociology, then it is likely to be picked up (though not necessarily used). The association made between social/behavioural science and innovation may also mean a rosy future for the subjects - providing, of course, that innovation as such is seen positively.

One outstanding finding has been the important and crucial role which personal contact plays. In the activities of linkers, journalists, consultants, the leading figures in the field of AWGs, the activities of those in industry, the pre-eminence of personal contact and personal knowledge emerges. While formal information input undoubtedly has a role to play, say, in alerting attention to topics, its importance is overshadowed by the informal input. What is relevant is talking to, meeting, seeing and hearing other people. The need is for personal evaluations. This suggests that information unmediated by some inter-personal input is unlikely to be useful except as background noise. In an age where an information explosion is taking place, where the rapid introduction of computers, word-processors, photo-copiers, etc. provides an endless barrage of information, the usefulness of all this information must be suspect. If those in charge of organisations will not read reports yet will spend hours discussing them of what real use in the ever-increasing amount of information? Perhaps the information producing machines and organisations merely act as status symbols, indicating some participation in a technologically-complex age. The reality is chatting to other people, relying on face-to-face contact or on personal recommendations. No wonder the bureaucratically-based organisations such as the Work Research Unit and ITBs have so little impact. No wonder it is individuals not the organisations who are remembered. Despite a mushrooming of large and faceless organisations, their formal output is being bypassed - the personal, the social is, (and presumably always has been), dominant. It is not the conference speaker but the chat afterwards; it is not the seminar topic but the lunch; it is not the course but the fellow students, which matter.

Nevertheless, the formal meetings, etc. enable the informal to take place. To write off the formal would be a mistake: the topic, the organisation, the speaker, the cost, etc. will determine who will attend, the level and type of informal contact which will occur. The formal arrangement, in other words, sets the scene for the informal, personal contact.

In turn, this accent on the personal is related to the accent on the practical. It is not the formal, impersonal and theoretical training which the respondents felt enables a manager to do his job - it is experience at the sharp end, at the front line, of the day-to-day problems involved in dealing with real people. It is part and parcel of countering the faceless, impersonal, information-gathering, non-caring head office men who don't understand how things 'really are'. It is an ethos which gives greater kudos to practice and less to abstract knowledge. It is reflected in the reading practices of managers and ITB advisers. It is reflected in the attitudes to the social sciences as being 'alright in theory...' And it is reflected in the reiteration of brewing being a friendly industry, flying in the face of the reality of ever-increasing competition. It is in the maintaining of human contact in an increasingly anonymous and bureaucratic world. And the moves to decentralisation illustrate a growing awareness of this within the industry.

The importance of the need for personal contact has obviously been recognised by the organisations which seek to foster networks amongst their members, and, by the intentional formation of networks across the largest U.K. companies. A closer investigation of networks, their members and the amount of overlap would obviously be rewarding - their existence in such a variety of activities indicates their centrality.

At another level, the large amount of contact between firms ostensibly in competition with one another further emphasises the desire for personal knowledge. Although claims of collusion would be hard to substantiate, the reality of such close contact and information exchange between companies gives rise to speculation about the amount and type of competition which exists in this, and presumably, other industries.

The presence of so many networks, inter-connections and personal contacts gives an impression that industry runs itself on the lines of a huge club. It's not what you know, but who you know which is important. Theoretical knowledge is pre-empted by personal contacts. The 'old school tie' stereotype of British industry is not so wide of the mark, at least with regard to the brewing industry.

Despite the large amount of reliance on personal contact in the brewing industry, the idea of AWGs is not much discussed. Whether this is due to brewing being an especially reactionary industry is not clear. The need for comparative studies is obvious. It may be that discussions of ideas such as AWGs take place at top level only, or big companies only, or amongst the new breed of 'informed amateurs'. These issues must remain unresolved in the absence of further research. While the case study of the brewing industry has been most rewarding in identifying many aspects of importance regarding diffusion and how the industry is run, information is clearly required on other industries.

The observer might comment that 'everyone knows' industry is run like a club - the finding is obvious. Yet the implications of the finding need to be spelled out. If formal information input to managers, whether via courses, lectures, seminars, publications is mediated by personal communications, the impact of the formal will be reduced. It means that the potential of linkers to change attitudes and practices of those who run industry is much

reduced unless those personal channels can be used. Attempts to improve management and other practices in industry may well fall on stony ground. It is also possible that in a world where people are primary as mediators of information, an antipathy to impersonal and technical methods of communication may exist. Thus there may be an explanation here for hostility to computer based information systems and to any other information-providing systems which give the recipient no personal face-to-face input with which to evaluate information. Similarly, the high level of personal contact means that the informal information exchange will not be shared with outsiders and is likely to disadvantage those who are not so informed. The possible applicability of these comments to other groups such as trade unionists would be most rewarding to investigate. It would be interesting to discover the reasons why, and the repercussions of, companies not participating in the appropriate networks. Once again, our lack of knowledge as to how networks operate becomes obvious. Are there different networks according to company size, location, product, etc.? What barriers to entry are there? Who is excluded from networks and why? While the term networks has been used here as a metaphor there is no reason why quantitative rather than qualitative measures regarding networks could not be used in future research.

While there are a variety of roles and services which linkers can perform, it is the industry and the conditions it faces which will most affect the linkers' activities. Nowhere is this clearer than in the case of ITBs. With little imagination it can be seen how the activities of a whole range of linkers will reflect the economic conditions and the demands of industry for information. Information and ideas for which there is no demand will not achieve much prominence. Editors, consultants, publishers, information-giving organisations, seek to present marketable commodities. And those marketable commodities, those ideas, have in some way to appeal to the potential consumers. The potential consumers are those who service

and those who run industry. There is no need to posit some conspiracy whereby the influence of industry is exerted. The needs of industry willy-nilly inform the whole process of diffusion in which the ideas which will eventually gain popularity are carefully and repeatedly sifted. The norms and attitudes of industry are known and appreciated. It is not surprising therefore to report that an idea such as AWGs, of possible use to management, has been neatly picked over and the potentially radical aspects removed or underplayed. Similarly, it is only reasonable that those who seek to obtain grants, consultancy fees, salaries or royalties need to appeal favourably to those who disburse them. "The essential question is not how scientific resources are allocated, but rather who (what class of people) does the allocating and according to what values." (Ambjornssen & Elzinga, 1971, p.148). The values and criteria of those who disburse funds in a capitalist society must be those of capitalism: such as a 'good' return on investment, an 'efficient' use of resources, usefulness, need 'to pay their way', etc. Thus the ideas which become prominent and the way they are presented, are likely to reflect such considerations. That this is the case with regard to AWGs has already been shown: it is the technique and its potential returns, not the philosophy, of AWGs, which has achieved prominence.

It ought, however, to be pointed out that although the linker reaches an industrial audience, that audience may not be his/her primary point of reference. For the journalist it was his peers, his colleagues, from whom there was continual and immediate feedback, who were important. The feedback from the industrial audience, while centrally important in the long-term, was sporadic and delayed. While this again points to the importance of personal contact, it also illustrates how what is presented to industry is not necessarily informed by industry's immediate needs. Of course, the journalist like other linkers, will have some mental image of what his audience seeks to be informed about, but the wish to meet the criteria and

obtain the approval of colleagues may be an important counter to this. There is a tension, therefore, as noted earlier, in the activities of journalists which suggests that a hegemonic view of the world in which ideas are presented is unreal. However, it is the activities of many linkers, not just one in isolation, which are important, and it seems reasonable to suppose that ideas widely taken up are those which are likely to appeal to a wide audience. "A science writer who comes to identify himself with scientists in his thinking and writing will soon lose his non-scientific audience" (Johnson quoted by Kreighbaum, 1968, p.117). Similarly, a journalist who ceases to identify with his audience will eventually find himself out of a job.

A question which the research has not been able to resolve is what determines which ideas will be picked up?. The various groups of respondents suggested a number of factors influencing the fashions in ideas. Perhaps most prominent were those which related to the concerns of industry at any given moment: 'it chimes with the times'. While a good bit weaker than the notion of a Zeitgeist, there is an underlying similarity. Ideas bearing some relation to one another gain a degree of prominence and a coincidence of focus occurs. Obviously the activities of many people are involved yet it is not obvious why their focus of attention should be that one, however broadly defined, topic. Linkers do pay attention to the activities of other linkers but the coincidence of attention suggests that novelty is not the most salient aspect about topics chosen for attention. Rather it seems as though there is a bandwagon affect - some leading, most following. Yet it is not easy to discover who does the leading. It does seem likely that newspapers with the greater pressure exerted on them for copy tend to give attention first, attention which is then picked up by others. Nevertheless,

some processes of selection must occur and the criteria used for these are unclear. What is seen as a 'coming issue', what is interpreted as having 'face validity' or being 'intellectually attractive' seem unpredictable. Some set of spectacles peculiar to the moment is required. It is only with hindsight that associations can be traced. While there may be parameters within which predictions can be made, e.g. that it fits in with the needs of a dominant group in society, these parameters are so broad as to be of little practical guidance. Similarly, while Ramsay's (1976) notion of 'cycles of control' could help predict the type of ideas which may become prominent, these predictions would concern general trends rather than specific notions. It must be concluded somewhat weakly here that no meaningful predictions regarding specific ideas can be made. This is disappointing because it is this aspect and its illumination which would help clarify which parts of industrial sociology are likely to be picked up as acceptable and correspondingly, who is presenting such ideas, where and how - thus many issues surrounding the Servants of Power debate could be resolved, or at least made clearer.

It is worth noting that those who are most prominent in the field have not necessarily been the early field leaders or the popularisers of AWGs. Indeed the 7 'old stars' and the prominent authors may have found themselves a niche, a speciality with which they can be associated and maintain a dominant position, once the idea has received an initially favourable reception. They may, in fact, be part of the 'bandwagon'. How and why 'experts' - self-appointed or not - emerge and may come to dominate a field is open to question. That they may exclude newcomers or at least distance themselves from hopeful aspirants was borne out by the lack of contact between the two (see Chapter Six). But the dominance of a group of 'old stars' does ensure that replacement of their theory, and their perspective is less easily achieved - possibly bearing some resemblance to Kuhn's notion of

paradigm change. It is not clear why one popular idea loses ground to another. It may be that the topic loses, and is seen to be losing, its 'newness' - not unlikely given the saturation coverage which a topic like AWGs has received. Possibly, replacement ideas come to the fore due to external factors such as economic climate, changes in government, impending legislation, etc. and can then be seen as responding to a 'felt need'. Once again, only suggestions can be made, predictions would require a great deal more research to be conducted.

The presence of 'informed amateurs' may be indicative of a new strategy in the operation of companies, using the softly-softly approach, relying on inputs from 'behavioural science' whether psychological or sociological in content, to control and help maximimise effort of their workforce. These 'enlightened' men are the managers who actively seek to use the knowledge/ideas/ theories from behavioural and social science. They are in the minority in the brewing industry. Their interest in, and potential use of, behavioural and social science suggests a rosy future for academics who research into the areas of interest to industry. If a subject area such as industrial sociology comes to be recognised as potentially useful, its future will be assured. However, it is those in the business school, not sociology, departments of universities who seek, and will benefit from, this interest. The academic who does not court the attention of linkers and/or managers will not benefit from this interest and in these days of shrinking sociology that unwillingness to court the industrial sector and its servants may sound the knell for academics. Dying with their hands unsullied! (that is, except for their research funds, royalty cheques)

Thus, the role of academics remain ambiguous. There do not seem to be a large number who seek to appeal to and attract an industrial audience. Yet, by their very activities, academics do reach an industrial audience. Although traditionally, academics have been said to hold industry and commerce in disdain, the ease with which the respondents felt academics are courted and 'collected' is intriguing. There are obviously some - linkers for the most part - with whom contact is acceptable: the Industrial Training Boards, researchers in the field who may or may not operate from an industrial base; the Work Research Unit, the Tavistock. Although this is secondhand contact with industry, academics in such contact must be aware of their secondhand contributions to industrial and commercial organisations. Perhaps it is because the contact is not at first-hand, it is not at a personal level, its importance and the academic's contribution to the affairs and concerns of industry can be discounted. A more detailed investigation of academics attitudes to and contacts with, industry and commerce would be well worth making. It has been seen however that the 'service' of industrial sociologists is limited. It is unlikely that strenuous efforts are made to reach a specifically industrial audience directly. Nevertheless, use is made of their work, even if it just adds to the background noise. Which all goes to show that academics like lesser mortals live in the same capitalist world as linkers, managers, etc.

Loren Baritz gave only a simplistic formulation of the issues surrounding the use and usefulness of the social sciences. As we have seen in relation to industrial sociology 'use' is neither necessarily direct nor traceable, it cannot be predicted and may be unplanned. The process by which ideas are developed and popularised is convoluted and multi-faceted. There are no villains - academics or others. The diffusion and popularisation of an idea such as AWGs occurs as the result of the activities of many people seeking to reach different goals but who, only with hindsight, can be seen to have

fed into and reinforced the activities of others. The way in which industrial sociology was found to permeate means that any claims as to use are dubious and so vague as to be almost meaningless. Similarly, subjects such as industrial sociology are not discrete - they influence and are influenced by a host of others. How such topics are used, and the extent to which they are used are also imponderables, dependent on specific instances. To make any great claims of use, as Baritz has done regarding industrial social science is to ignore the complexities of the process. Nevertheless, the questions which Baritz outlined, raise interesting issues relating to the diffusion and popularisation of ideas.

Many in sociology departments would like to reach a wider audience and to show the relevance of their work to the problems facing society. Their funds, after all, come from the public purse. Marxists might prefer to bite the hand that feeds them, cocking a snook at the Establishment which supports them. This issue cannot be resolved without recourse to personal and political beliefs. My own view, which I have tried not to over-impose on the research, is that sociologists should not function to increase the inequitable distribution of knowledge. But sociologists practice in an inequitable world. Whatever 'knowledge' they produce is likely to reinforce this world unless more detailed knowledge and understanding is gained about those who exercise power in it.

APPENDIX A

A list of abbreviations used in the text:

AB	Absenteeism
ASR	American Sociological Review
ACAS	Arbitration and Conciliation Service
ATM	Association of Teachers of Management
BACIE	British Association for Commercial and Industrial Education
BISFA	British Industrial and Scientific Films Association
BIM	British Institute of Management
BPS-DOP	British Psychological Society - Division of Occupational Psychology
BSALS	British Society for Agricultural Labour Science NOW Agriculture Manpower Society
BSA	British Sociological Association
BSC	British Steel Corporation
BGA	Business Graduate Association
CA	Chartered Accountant
CIBS	Chartered Institute of Building Services
CBI	Confederation of British Industry
DES	Department of Education and Science
DMS	Diploma in Management Studies
DBA	Directory of British Associations
DESC	Duke of Edinburgh Standing Conference
EEF	Engineering Employers Federation
EITB	Engineering Industry Training Board
EMEEA	East Midland Engineering Employers Association
EANPC	European Association of National Productivity Councils
EJS	European Journal of Sociology
FDTITB	Food, Drink and Tobacco Industry Training Board
HCITB	Hotel and Catering Industry Training Board

IPA	Industrial Participation Association
IRRU	Industrial Relations Research Unit
IRRR	Industrial Relations, Review and Research
IS	Industrial Society
ITRU	Industrial Training Research Unit
ICMA	Institute of Cost Management Accountants
IoD	Institute of Directors
ILGS	Institute of Local Government Services
IMS	Institute of Management Services
IPM	Institute of Personal Management
ISM	Institute of Supervisory Management
IISO	Institution of Industrial Safety Offices
IME	Institution of Mechanical Engineers
IPE	Institution of Production Engineers
ITO	Institution of Training Officers
IWM	Institution of Works Management
IWSP	Institution of Work Study Practitioners
ICQWL	International Council for the Quality of Working Life
LGSBS	London Graduate School of Business Studies
LT	Labour Turnover
MBS	Manchester Business School
MSC	Manpower Services Commission
MVS	Mine Ventilation Society
NATFHE	National Association of Teachers of Further and Higher Education
NEDO	National Economic Development Office
NFU	National Farmers Union
NIIP	National Institute of Industrial Psychology
NEBA	North East Brewers Association
NWBA	North West Brewers Association

ODNetwork	Organisational Development Network
OR	Operational Research
OECD	Organisation for Economic Cooperation and Development
Quaker	Quaker Social Responsibility and Education
QWL	Quality of Working Life
RAS	Royal Aeronautical Society
SSRC	Social Science Research Council
SAF	Swedish Employers Federation
Tavi.	Tavistock Institute of Human Relations
TUC	Trades Union Council
TSD	Training Services Division
UGC	University Grants Committee
WRU	Work Research Unit
YBA	Yorkshire Brewers Association

APPENDIX B SAMPLE OF PUBLICATIONS (see also Chapter 3)

ALIOTH, E. and ULRICH, E., 1976, "Semi-autonomous work-groups in warehousing", Ergonomics, 19, 3, p.368

BANKS, T., 1974, "Autonomous work groups", Industrial Society, July/August, p.10-12

BARRIT, R.O., 1975, "New forms of work organisation", WRU Research Paper No. 3, DE, London

BLACKLER, F.H.M. and BROWN, C.A., 1978, Job Redesign and Management Control: Studies in British Leyland and Volvo, Saxon House, Farnborough, Hants.

* BROWN, W., 1976, "From strikes to participation: a sociologist's eye view", Personnel Management, June, 8, p.29-31

BUSINESS WEEK, 1971, "Motorola creates a more demanding job", Business Week, September 4, p.32

CARNALL, C.A. and BUTTERISS, M., 1977, "Job Design in the Process Industries", Chartered Mechanical Engineer", September, p.57

CLERC, J-M, 1974, "Experiments in Humanising the organisation of industrial work: Some Points from a Symposium", Internal Institute for Labor Studies Bulletin, 11, p.15-20

COOPER, C.L., 1978, "Work humanization in Japan", DE Gazette, January

DAVIS, L.E., 1972, "Job satisfaction research: the post-industrial view", in L.E. Davis and J.C. Taylor, The Design of Jobs, Penguin, Harmondsworth, p.154-176

DEN HERTOOG, J.F. and WESTER, P., 1978, "Organizational renewal in engineering works: a comparative process analysis", Philips, Social Research Department, April

DOUARD, H. and REYNAUD, J-D., 1975, "Union-management conflicts of Quality of Working Life issues", in L.E. Davis and A.B. Cherns The Quality of Working Life, Vol. 1, Free Press, p.393-404

EDGREN, J., 1974, "Swedish Experiments in Work Organisation", Personnel Management, June, p.25-40

- EUROPEAN FREE TRADE ASSOCIATION, 1973, "Volvo designs a new factory", EFTA Bulletin, December, 14, p.17-19
- FOY, N. and GADON, H., 1976, "Worker Participation", Harvard Business Review, May/June, p.71
- GLASER, E.M., 1976, Productivity gains through worklife improvement, Harcourt Brace, New York
- HAMILTON, A., 1972, "Reaping the rewards of worker participation", The Times, 6 November, p.20
- HARVEY, P.G., 1974, "How ICI practices participation", Financial Times, 19 June, p.19
- * HEBDEN, J. and SHAW, G., 1976, "Pitfalls in participation", Management Today, January, p.68-88
- HELLER, R., 1973, "Participation is the latest fashion rage", Guardian, 2 October, p.19
- HERRICK, N.Q., 1973, "Government approaches to the humanization of work", Monthly Labor Review, April, 96, p.52-54
- HOLTE, J.B., 1970, "Experiments in co-operation", Co-Partnership, October, p.31-38
- INDUSTRIAL RELATIONS REVIEW AND REPORTS, 1976, "Self Directed Workgroups at Emcar", Industrial Relations Review and Reports, March, No. 123
- JENKINS, D., 1974, Job Power, Heinemann, London
- KATZELL, R.A. et.al., 1977, A guide to worker productivity experiments in the United States 1971-75, New York, New York University Press
- LEONARD, R., and RATHMILL, K., 1977, "Group technology myths", Management Today, January, p.66-69
- LUPTON, T., 1971, "Organizational change - top down or bottom up management", Personnel Review, October
- * M'COMSKY, J.G., 1977, "Personal goals and work design", British Journal of Psychology, 68, February, p.148-149

- MANUFACTURING MANAGEMENT, 1972, "Work-teams at Pye beat production line problems", Manufacturing Management, December, p.18-19
- MINOGUE, K., 1974, "Working on the pleasure principle", Times Literary Supplement, August, 30, p.929-930
- NICHOL, J.D., 1971, "Formation of man-machine groups", Institution of Production Engineers
- OLSEN, E.E., 1974, "Experiments in Industrial Cooperation", Federation of Danish Mechanical Engineering and Metalworking Industries, Copenhagen
- * PELISSIER, R.F., 1965, "Successful Experience with Job Design", Personnel Administration, March-April, 28, p.12-16
- QVALE, T.U., 1976, "A Norwegian strategy for democratization of industry", Human Relations, May, 29, p.453-469
- * REID, D., 1975, "Involving the workforce", Management Today, February, p.74-77
- ROBERTSON, M.F., 1969, "The pursuit of happiness at work", Management Decision, Autumn, 3, p.47-49
- * SCHMITTHOF, C.M., 1974, "Tailoring the system to British needs", The Times, 6 May, p.19
- SLACK, N.D. and WILD, R., 1975, "Research Notes: Production Flow Line and 'collective' working: a comparison", International Journal of Production Research, 13, 4, p.411-418
- SUSMAN, G.I., 1970. "The concept of status congruence as a basis to predict task allocations in autonomous work groups", Administrative Science Quarterly, 15, p164-175
- TAYLOR, L.K., 1974, "Management of change: an example from local government", Industrial and Commercial Training, 6 January, p.16-23
- TRIST, E.L., SUSMAN, G.I. and BROWN, G.R., 1977, "An experiment in autonomous working in an American Underground coal mine", Human Relations, March, 30, 3, p.201-236
- WALTON, R., 1976, "Group technology", Work Study, January, p.7-13

WELLIN, M., 1978, "How to manage by groups", Management Today, February,
p.52.55

WILD, R., 1974, "Group technology, cells and flow lines", Omega, 2, 2, p.269

WINPISINGER, W.W., 1973, "Job enrichment: a union view", Monthly Labor Review,
April, 96, p.54-56

WORLD OF WORK REPORT, 1977, "Self managed teams at Butler Plant cut costs,
raise productivitiy", World of Work Report, November, 2, 11, p.124-126

(* Not relevant to subject of AWGs)

APPENDIX C REFERENCES COLLECTED WHICH RELATE TO THE TOPIC OF
AUTONOMOUS WORK GROUPS

- ADDISON, M.E., 1969, "Motivation through interest", The O & M Journal, (U.K.), February, p.10
- AGERSNAP, F., et al., 1974, "Danish Experiment with New Forms of Cooperation on the Shopfloor", Personnel Review, Summer, 3, 3, 34-50
- AGERVOLD, M., 1975, "Swedish Experiments in Industrial Democracy", in L. Davis and A. Cherns, The Quality of Working Life, Vol. 2, pp.46-65
- AGUREN, S., HANSSON, R., HANSSON, K.G., 1976, "The Volvo Kalmar Plant: The Impact of New Design on Work Organisation", The Rationalization Council: SAF/LO
- ALDERFER, C.P., 1969, "Job Enlargement and the Organisational Context", Personnel Psychology, pp.418-426
- ALEXANDER, K.J.W., 1975, "Towards better ways of working", The Scotsman, 24th October, p.12
- ALIOTH, E. and ULRICH, E., 1976, "Semi-autonomous work groups in warehousing", Ergonomics, 19, 3, p.368
- ALIOTH, A. et al. (eds), 1978, Working on the quality of working life, Martinus Nijhoff, Leiden
- ALIOTH, A., 1978, "Warehouse workers reorganise their own organisation", in A. Alioth et al. (eds), Working on the quality of working life, (pp.110-122)
- ALIOTH, A., MARTIN, G. and ULRICH, E., 1976, "Semi-autonomous work groups in warehousing", Proceedings of 6th Congress of the International Ergonomics Association 'Old world, New world, One world', and Technical Programme of 20th Annual Meeting of the Human Factors Society, pp.187-191
- ANDREATTA, A.J., 1974, "Job Enrichment through Autonomous Groups", Personnel Practice Bulletin, March, 30, 1, pp.9-13
- ANDREATTA, H. and RUMBOLD, B., 1975, "Building effective work teams", Work and People, Spring, 1, 3, pp.3-9
- ARCHER, J.T., 1975, "Achieving Joint Organisational, Technical, and Personal Needs: The Case of the Sheltered Experiment of Aluminium Casting Team", in L. Davis, and B. Cherns, The Quality of Working Life, Vol. 2, pp.253-268

- ARGYLE, M., 1972, "Working in Groups", New Society, 26th October, pp.220-221
- ARGYLE, M., 1972, "Social Skills: the experience of work", New Society, 9th November, pp.342-343
- ARIS, S., 1971, "Happy Workmen Go Well for Shell", Sunday Times, 5th December, p.62
- ARMENAKIS, A.A., 1977, "Human resource considerations in textile work redesign", Human Relations, December, 30, pp.1147-1156
- ARMSTRONG, J., 1977, "How to motivate", Management Today, February, pp.60-63
- ARMSTRONG, R., 1972, "We've proved you can be efficient, profitable, and human", Manufacturing Management, September, pp.14-16
- ARMSTRONG, J. and LLOYD, D.H., 1975, "A Better Place to Work", University of Reading, Research Study No. 18
- ARONSON, R., 1972, "Volvo Kalmar Plant...", Personnel, 54, 4, p.77
- ASTROP, A.W., 1973, "Benefits gained from rearranging a small factory", Machinery and Production Engineering, May, pp.630-631
- ASTROP, A.W., 1974, "Some impressions of socio-technological changes in the Swedish engineering industry : 1", Machinery and Production Engineer, June, p.690-697
- ASTROP, A.W., 1974, "Some impressions of socio-technological changes in the Swedish engineering industry : 2", Machinery and Production Engineer, June, p.734-740
- ASTROP, A.W., 1975, "Group Technology as a way of Life", Machinery, 126, 3241
- ATKINSON, A., 1975, "Job Motivation and Job Design", Ergonomics, 19, 6, 775
- AXTON, K., 1971, "Involvement: a personal view", Co-partnership, January, 543, p.32-3
- BABAD, E.Y., TZUR, A., and OPPENHEIMER, B.T., 1977, "An all purpose model for group work", Human Relations, April, 30, 4, p.389-401

- BAILEY, J., 1978, "Moulding Work to People", Industrial Society, May/June, p.13
- BAKER, C., 1974, "Job enrichment and job satisfaction - selected overseas studies, Part 2 : British studies", Personnel Practice Bulletin, March, 30, 1, p.38-46
- BAKER, C., 1974, "Job enrichment and job satisfaction - selected overseas studies, Part 3 : European studies", Personnel Practice Bulletin, June, 30, 2, p.149-161
- BAKER, S.H. and HANSEN, R.A., 1975, "Job design and worker satisfaction : a challenge to assumptions", Journal of Occupational Psychology, 48, p.79-91
- BANKS, T., 1974, "Autonomous Work Groups", Industrial Society, July/August, p.10-12
- BARRIT, R.O., 1975, "New forms of work organisation", Work Research Unit Paper, London, D.E., No.3.
- BARRON, C., 1978, "Format fears at Philips", Management Today, August, p.34
- BARRY, A., 1977, "The flexible system may produce results where others failed", The Engineer, September, 245, 6338, p.61-63 and 106
- BATTERSBY, A.J., 1976, "What about the workers?", Management Today, October, p.66-69
- BEHREND, H. and WHITE, P., 1977, "Enquiry into the incidence of job enrichment schemes in the chemical and allied industries", Department of Business Studies, University of Edinburgh, February
- BERRY, A.P. (ed), 1974, "Worker Participation : the European Experience", Coventry and District Employers Association
- BIRCHALL, D.W., 1974, "The Design of Jobs", The Bankers Magazine, 218, 1565, p.23-26
- BIRCHALL, D.W., 1975, Job Design, Gower Press, Epping

- BIRCHALL, D., CARNALL, D. and WILD, R., 1978, "A study of experiences with new models of work organisation in the United Kingdom: Final project report for the European Foundation for the Improvements of Living and Working Conditions", Work Research Group, Henley, April, (for seminar on new forms of work organisation, Dublin, 26-27 October, 1978)
- BIRCHALL, D.W., ELLIOTT, R.A., and WILD, R., 1973, "Organisational, Cultural and Societal Differences and their Effect on the Application and Effectiveness of Job and Work and Organisation Changes", Admin. Staff College, Henley
- BIRCHALL, D.W. and HAMMOND, V., 1977, "Clerical job enrichment: a survey of reported experience", Work Research Group, Henley/Petroleum Industry Training Board Joint Project, April
- BIRCHALL, D., and HAMMOND, V., 1978, "Can Clerical work be made more interesting?", Management Services, February, p.4
- BIRCHALL, D and HAMMOND, V., 1978, "Action Learning to Improve Clerical Work", Education and Training, July/August, p.219
- BIRCHALL, D.W. and MORRIS, B.J. (eds), 1978, "Practice of Job Design and Work Organisation", Administrative Staff College, Henley
- BIRCHALL, D., and WILD, R., 1973, "Job Restructuring Amongst Blue-collar Workers", Personnel Review, Spring, 2, 2, p.40-56
- BIRCHALL, D.W. and WILD, R., 1973, "Group Working", Work Study and Management Services, October, p.702-707
- BIRCHALL, D.W., and WILD, R., 1974, "Autonomous Work Groups", Journal of General Management, 2, August, 1, p.36-43
- BIRCHALL, D.W., et al., 1978, "Group Working in Biscuit Manufacture", Personnel Review, Spring, p.40
- BIRCHALL, D., WILD, R., and CARNALL, C., 1976, "Redesigning a way to worker participation", Personnel Management, August, 8, p.26-8
- BLACKLER, F.H.M., and BROWN, C.A., 1978, Job Redesign and management control, Studies in British Leyland and Volvo, Saxon House, Farnborough, Hants.
- BLAIR, J., 1974, "Three studies in improving clerical work", Personnel Management, February, 6, p.34-7

- BLAKE, J., 1974, "Experiments in job satisfaction", Personnel Management, January, 6, p.32-3
- BLAKE, J., and ROSS, S., 1976, "Some experiences with autonomous work groups", in M. Weir (ed), Job Satisfaction: Challenge and Response in Modern Britain, Fontana, London, p.185-93
- BLUMBERG, P., 1968, "Industrial Democracy: The Sociology of Participation", Constable, London
- BOISVERT, M.P., 1977, "The quality of working life: an analysis", Human Relations, February, 30, p.155-60
- BOLWEG, J.F., 1976, Job Design and Industrial Democracy, Martinus Nijhoff, Leiden
- BOND-WILLIAMS, N.I., 1953, "Informal Workers Groups: An interim report on an industrial experiment", British Management Review, July, Vol. XI, Part 4, p.37-56
- BOURN, C.J., 1972, "Is money the answer to labour problems?", Personnel Management, March, 4, p.16-20
- BOW GROUP, THE, 1973, Employee Participation in British Companies, Bow Publications, London
- BOWERS, D.G. and SEASHORE, S.E., 1971, 'Changing the Structure and Functioning of an Organisation', in W.M. Evan(ed), Organisational Experiments: Laboratory and Field Research, New York
- BOWEY, A., and CONNOLLY, R., 1975, "Application of the concept of working in groups", Management Decision, 13, 3, p.181-192
- BRANDT, D., 1975, "Industrial democracy: what's on in Europe", Personnel Management, August, 7, p.22-24
- BREKELMANS, W., and JONSSON, B., 1976, "Diffusion of work design changes in Volvo", Columbia Journal of World Business, Summer, 11, p.96-99
- BRITISH INSTITUTE OF MANAGEMENT, 1979, "Employee Participation in the E.E.C.", British Institute of Management, European Management Information Sheet No. 5, BIM, London
- BRITISH INSTITUTE OF MANAGEMENT, 1969, "Industrial Democracy: some implications for management", British Institute of Management Occasional Paper, BIM, London

- BRITISH INSTITUTE OF MANAGEMENT, 1969, "Impact of behavioural science on organisation design", A one-day seminar held September in London, led by D. Neilman, Fulmer, Bucks, Centre for Organisation Analysis
- BRITISH INSTITUTE OF MANAGEMENT, 1970, "Organisation design and the impact of behavioural science. A one-day Seminar held in London in September", London
- BRITISH JOURNAL OF MARKETING, THE, 1969, "The origins of motivational research" The British Journal of Marketing, July
- BROWN, C., and MILLAR, J., 1974, 'Job Design Change: An Assessment of the Potential for Cross National Research on Job Redesign', University of Lancaster, Department of Behaviour in Organisations, S.S.R.C. Report
- BROWN, M., 1969, "The Manager's guide to the behavioural sciences", Industrial Society, London
- BROWN, M. and HENDERSON, J., 1968, "Organisation of work", Industrial Sociology, October, p.10
- BROWN, W., 1976, "From strikes to participation: a sociologist's eye view", Personnel Management, June, 8, p.29-31
- BROWN, W., 1977, "Job Reform in Sweden" Jenkins, D., British Journal of Industrial Relations, 15, 3, p.427-428
- BRYANT, D., A manager's guide to withdrawal from work, Brighton Institute of Manpower Studies (IN PRESS)
- BUCKLOW, M., 1966, "A New Approach to the Work Group", Administrative Science Quarterly, 2, p.59-78
- BUCKLOW, M., 1972, 'A New Role for the Work Group', in L.E. Davis and J.C. Taylor, Design of Jobs, Penguin, Harmondsworth
- BUNCH, J.D., 1974, "How Danish Workers participate", Journal of General Management, Summer, p.59-69
- BURBRIDGE, J.L., 1973, Article in Chartered Mechanical Engineer, February, p.74-76

- BURBIDGE, J.L., 1973, "AIDA and group technology", International Journal of Production Research, 11, 4, p.315-324
- BURBIDGE, J.L., 1975, A Study of the Effects of Group Production Methods on the Humanisation of Work, Final Report. International Centre for Advanced Technical and Vocational Training, Turin, Italy
- BURBIDGE, J.L., 1975, The Introduction of Group Technology, Heinemann, London
- BURBIDGE, J.L., 1976, Group production methods and humanisation of work: the evidence in industrialised countries", International Institute for Labour Studies, Geneva
- BURBIDGE, J.L., 1978, "Whatever happened to GT?", Management Today, September, p.86+
- BURDEN, D., 1970, "A Participative Approach to Management", Shell, U.K., April 15th
- BURDEN, D.W.E., 1975, "Participative Management as a basis for improved quality of jobs: The Case of Microwax Department, Shell U.K., Ltd.", in L. Davis and A. Cherns, The Quality of Working Life, Vol. 2, p.201-215
- BURKITT, A., 1977, "Worker control results speak for the workers", Engineer, October, 245, 6344, p.15
- BUSINESS ADMINISTRATION, 1975, "Granada gets more from less", Business Administration, November, p.47
- BUSINESS ADMINISTRATION, 1977, "Don't hand over just work but responsibility", Business Administration, May, p.14
- BUSINESS ADMINISTRATION, 1977, "Flexible Labour", Business Administration, July/August, p.19
- BUSINESS ADMINISTRATION, 1977, "Shop-floor involvement at Doulton Tempered Glass", Business Administration, October, p.40
- BUSINESS MANAGEMENT, 1970, "Volvo-valuable lessons for British Industry", Business Management, May, p.26
- BUSINESS WEEK, 1969, "Making a job more than a job", Business Week, 19th April, p.88-89

- BUSINESS WEEK, 1971, "Teamwork through conflict: TRW has turned to behavioural science techniques to help get the work done", Business Week, 20th March, p.44-45
- BUSINESS WEEK, 1971, "Motorola creates a more demanding job...", Business Week, September, 4, p.32
- BUSINESS WEEK, 1972, "The trouble with productivity overseas", Business Week, 9th September, p.112-116
- BUSINESS WEEK, 1972, "Job monotony becomes critical", Business Week, 9th September, p.108
- BUSINESS WEEK, 1972, "Management itself Holds the Key", Business Week, 9th December
- BUSINESS WEEK, 1973, "G.M. zeroes in on the employee discontent", Business Week, 12th May, p.140-144
- BUSINESS WEEK, 1974, "Volvo bets on team assembly", Business Week, 20th April, p.18+
- BUSS, G.O., 1974, "More participation - Better performance", Business Administration, July, p.53-54
- BUTERA, F., 1973, "Experience in Advances in Work Organisation", Work Study, October, p.9-21
- BUTERA, F., 1975, "Environmental Factors in Job and Organisation Design: The Case of Olivetti", in L. Davis and A. Cherns, The Quality of Working Life, Vol. 2, p.166-200
- BUTTERISS, M., 1971, 'Job enrichment and employee participation - a study', Institute of Personnel Management
- BUTTERISS, M., 1975, "A strategy for job enrichment - a summary of the Hackman and Oldham Reports Nos. 3, 4 and 6", W.R.U. Paper No. 6, December
- BUTTERISS, M., 1976, "Work restructuring in financial organisations", Quarterly Journal of the Building Societies Institute, January, 30, p.117

- CAKE, D.L. and HAGERMAN, D.C., 1978, "GT: a new concept in packaging", Modern Packaging, 4th August, 51, p.31-4
- CALLICOAT, S., 1973, "Blending company targets with workers needs", Rydges, April, p.43-9
- CAMERON, S., 1978, "Why the individual approach comes over loud and clear", Financial Times, 30 January, p.9
- CARBY, K., 1976, "Job redesign in practice", Institute of Personnel Management
- CARNALL, C.A., and BUTTERISS, M., 1977, "Job Design in the Process Industries", Chartered Mechanical Engineer, September, p.57
- CARPENTIER, J., 1974, "Organisation Techniques and the Humanisation of Work", International Labor Review, 10, 2
- CARSON, I., 1970, "Making the job motivate the man", International Management, July, 25, p.46-8
- CARTER, P.J., 1969, "Work structuring", Work Study and Management Services, p.679
- CAULKIN, S., 1972, "New Light at Triplex", Management Today, November, p.10+
- CAULKIN, S., 1974, 'Sweden's Strikeless Wonder', Management Today, January, p.68+
- CAULKINS, D., 1974, "Job redesign: pay implications", Personnel, May, 51, p.29-34
- CHAMPAGNE, J., 1973, "Adapting jobs to people: experiments at Alcan", Monthly Labor Review, April, 96, 4, p.49-51
- CHERNS, A.B., 1973, "Better working lives: a social scientist's view", Occupational Psychology, 4, p.21-8
- CHERNS, A.B., 1973, "Better working lives", New Humanist, September, 89, p.151-3
- CHERNS, A.B., 1974, "Work or Life?", S.S.R.C. Newsletter, 21 January
- CHERNS, A., 1975, "Perspectives on the quality of working life", Journal of Occupational Psychology, 48, p.155-67

- CHERNS, A.B. and DAVIS, L.E., 1975, "Goals for enhancing the quality of working life", in Davis and Cherns The Quality of Working Life, p.55-62
- CHERNS, A.B. and DAVIS, L.E., 1975, "Assessment of the State of the Art", in Davis and Cherns, The Quality of Working Life, p.12-54
- CHESTER, R., undated, "Behavioural Sciences in Industry - A Practical Approach", Lecture - Grubb Institute of Behavioural Studies
- CHICHESTER-CLARK, R., 1973, "On the quality of working life", Personnel Management, November, 4, p.26-29
- CHOATE, R., 1975, 'Sweden: a special report', The Times, 24th October, p.13-15
- CLARKE, O., 1973, "Worker Participation", Work Study, February, p.49
- CLARKE, O., 1975, "The worker and work: Contemporary Problems and Participation", Mimeo, 1974
- CLEGG, C.W. et al., 1978, "Managers' Attitudes towards Industrial Democracy", Industrial Relations Journal, Autumn, p.4
- CLEGG, C. and FITTER, M., 1978, "Workload Procedures and Job Redesign", Personnel Review, Summer, p.5
- CLERC, J.M., 1974, "Experiments in Humanising the Organisation of Industrial Work: Some Points from a Symposium", International Institute for Labour Studies Bulletin, 11, p.15-20
- CLUTTERBUCK, D., 1973, "Has the time come to adopt the flexible working life?", International Management, September, 28, p.58-61
- CLUTTERBUCK, D., 1973, "Creating a factory within a factory", International Management, October, p.65-66
- CLUTTERBUCK, D., 1974, "Tractor factory to tackle assembly line boredom", International Management, June 29, p.43-44
- CLUTTERBUCK, D., 1974, "Motivation by plant democracy", International Management, July, p.22

CLUTTERBUCK, D., 1974, "Einar Thorsrud: apostle of employee democracy", International Management, July, 29, p.28-30+

CLUTTERBUCK, D., 1974, "Tandberg tunes in to employees' needs", International Management, August, p.24

CLUTTERBUCK, D., 1975, "Faiveley opens its doors to shop-floor management", International Management, May, p.22-26

CLUTTERBUCK, D., 1975, "Mirror factory tries to reflect its workers' needs", International Management, July, 30, p.50-54

CLUTTERBUCK, D., 1975, "Bulten-Kanthol forges new links with its employees", International Management, October, 30, p.28-30+

CLUTTERBUCK, D., 1976, "Tokyo Gas gets employees to redesign their own jobs", International Management, February, 31, p.20-23

CLUTTERBUCK, D., 1977, "General Mining restructures from the bottom up", International Management, January, 32, p.14-18

COATES, K., 1972, "Quality of Life and Workers Control", (Spokesman Pamphlet No. 27), Russell Peace Foundation, Nottingham

COHEN, M.L., 1976, "Job redesign - organisation development approach", Personnel Journal, 55, 12, p.608-612

COLOSKY, D.A., 1972, "How to waste time and misuse human capabilities", Assembly Engineering, July, V, p.34-37

COMMITTEE ON PARTICIPATION, 1976, "Participation", Philips, Eindhoven

CONANT, E.H. and KILBRIDGE, M.D., 1965, "An interdisciplinary analysis of job enrichment", Industrial and Labour Relations Review, 18, April 3rd, p.377-395

CONFEDERATION OF BRITISH INDUSTRIES, "Worker Participation", C.B.I., Industrial Relations Bulletin, June 29, p.2-3

COOPER, A., 1972, "Happy in their work", Director, April, 24, p.82-84

COOPER, C.L., 1978, "Work humanisation in Japan", D.E. Gazette, January

- COOPER, C.L. and KUNIYA, D., 1977, "Participative management practice and work humanisation in Japan", W.R.U. Occasional Paper No. 1
- COOPER, C.L. and MUMFORD, E. (eds), 1978, The Quality of Working Life: The European Experiment, A.B.P., London
- COOPER, R., 1969, "Alienation from work", New Society, 30 January, p.161-163
- COOPER, R., 1972, "Man, Task and Technology", Human Relations 25, p.131-157
- COOPER, R., 1975, Job motivation and job design, I.P.M., London
- COOTE, A., 1978, "Sweden's exasperating attempts at industrial democracy", New Statesman 23 June, p.844
- CORLETT, N., WEINER, J.S., and MAULE, H.G., 1977, "Human factors in work, design and production", Ergonomics, 20, 5, p.595-596
- COTGROVE, S., DUNHAM, J. and VAMPLEW, C.W., 1971, The Nylon Spinners, Allen and Unwin, London
- COX, A., 1976, "Job re-design - new roles for employees", Industrial Training International, April, p.113
- COX, D., 1970, "Organisation of repetitive tasks; some shop floor experiments recalled", Occupational Psychology, 44, p.81-88
- CUMMINGS, T.G. and MOLLOY, E.S., 1977, Improving productivity and the quality of work life, Holt Rinehart, New York
- CUMMINGS, T.G., MOLLOY, E.S. and GLEN, R., 1977, "A Methodological Critique of fifty-eight selected work experiments", Human Relations, 30, 8, p.675-708
- CURRAN, J. and STANWORTH, J., 1978, "Job choice and the manual worker", Personnel Management, September, p.41
- DALZIEL, S.J. and KLEIN, L., 1960, "The Case of Pakitt Ltd.", Warren Spring Lab. of D.S.I.R. (now Min. Tech.) Duplicated Report
- DANODARAN, L. and IDE, C., 1978, "Work re-structuring - a case study in the footwear industry", Satra Bulletin
- DANIEL, W.W., 1972, "Changing hierarchies at work", Listener, 7th September, 88, p.300-302

- DAVIES, B., 1967, "Some Thoughts on Organisation Democracy", Journal of Management Studies, October, 4, 3, p.270-81
- DAVIES, D.R. and SHACKLETON, J.T., 1975, Psychology and Work , Methuen, London
- DAVIS, L.E. 1957, "Toward a Theory of Job Design", Journal of Industrial Engineering, 8, p.305-9
- DAVIS, L.E., 1972A, "Job satisfaction research: the Post-Industrial View", in L.E. Davis and J.C. Taylor Design of Jobs , Penguin, Harmondsworth, p.154-176
- DAVIS, L.E. 1972B, "The Design of Jobs", in L.E. Davis and J.C. Taylor Design of Jobs , Penguin, Harmondsworth
- DAVIS, L.E. 1972C, "Readying the Unready: Post Industrial Jobs", in L.E. Davis and J.C. Taylor Design of Jobs , Penguin, Harmondsworth
- DAVIS, L.E. 1972D, "The Coming Crisis for Production Management: Technology and Organisation", in L.E. Davis and J.C. Taylor, Design of Jobs , Penguin, Harmondsworth
- DAVIS, L.E., 1975, Introduction and Assessment in L.E. Davis and A.B. Cherns, The Quality of Working Life , Vol. II, Free Press, New York and London
- DAVIS, L.E. 1977A, "Evolving Alternative Organisation Designs - their sociotechnical bases", Human Relations, 30, 3, p.261-273
- DAVIS, L.E. 1977B, "Enhancing the quality of working life: developments in the United States", International Labour Review, July 116, p.53-65
- DAVIS, L.E., CANTER, R.C. and HOFFMAN, J., 1972, "Current Job Design Criteria", in L.E. Davis and J.C. Taylor, Design of Jobs , Penguin, Harmondsworth
- DAVIS, L.E. and CHERNS, A.B., 1975, The Quality of Working Life (2 vols), Free Press, New York
- DAVIS, L.E. and TAYLOR, J.C., 1972, Design of Jobs , Penguin, Harmondsworth
- DAVIS, L.E. and TAYLOR, J.C., 1975 "Technology Effects on Job, Work and Organisational Structure: A contingency View", in L.E. Davis and A.B. Cherns, The Quality of Working Life , Vol. I, Free Press, New York and London

- DAVIS, L.E. and TRIST, E., 1974, "Improving the quality of work life", in J. O'Toole Work and the Quality of Life, MIT Press, Mass.
- DEESON, A.F.L., 1973, "Autonomous Assembly Groups", Works Management, January, p.3
- DEJONG, J.R., 1977, "Roles and instruments in work design and work redesign", Ergonomics, 20, 5. p.566
- DELAMOTTE, Y.P., 1975, "Union attitudes toward Quality of Working Life", in Davis and Cherns, The Quality of Working Life, p.405-415
- DELAMOTTE, Y., 1976, "The attitudes of French and Italian trade unions to 'humanisation' of work", Labour and Society, January, 1, 1, p.49-62
- DELAMOTTE, Y., 1976, 'Working Conditions and Government Policy: some Western European Approaches', International Labor Review, 114, p.139-54
- DELAMOTTE, Y. et.al., 1972, "The Quality of Working Life", International Institute for Labour Studies Bulletin, 11, pps. 3, 15, 21
- DELAMOTTE, Y. and WALKER, K.F., 1974, "Humanisation of work and the Quality of Working Life - Trends and Issues", International Institute for Labour Studies Bulletin, 11, p.3-14
- DEN HERTOOG, F.J., 1974, "Work structuring experiences with alternative approaches to job design within the Philips concern", Paper presented at N.A.T.O. Conference on Personal Goals Job Design at York University, August, 1974, Philips, Gloeilampenfabriken
- DEN HERTOOG, J.F., 1977, "Breaking the Deadlock: search for new strategies for Q.W.L.", Philips, Industrial Psychology Department, March
- DEN HERTOOG, J.F. and WESTER, P., 1978, "Organisational renewal in engineering works: a comparative process analysis", Social Research Department, Philips, April
- DEN HERTOOG, J.F. and VOSSEN, H.P., undated, "Organisation renewal: Terneuzen 'Special Miniature', Project", Philips
- DE GAZETTE, 1977, "The case for shop floor participation", Department of Employment Gazette, June
- DE GAZETTE, 1977, "The case for shop floor participation - Baxi Heating", Department of Employment Gazette, July

- DE GAZETTE, 1977, "The case for shop floor participation - GKN (Shotton) Ltd."
Department of Employment Gazette, July
- DE GAZETTE, 1977, "The case for shop floor participation - ICI (Grangemouth)",
Department of Employment Gazette, August
- DE GAZETTE, 1977, "The case for shop floor participation - Tannoy Products Ltd."
Department of Employment Gazette, August
- DE GAZETTE, 1977, "The case for shop floor participation - South Eastern
Electricity Board", Department of Employment Gazette, November
- DETTEBACK, W.W. et.al., 1971, "Organisation Change Through Job Enrichment",
Training and Development Journal, August, p.2-6
- DEVELOPMENT COUNCIL FOR COLLABORATIVE QUESTIONS, 1975, "Participation in 35
Swedish Companies", Development Council for Collaborative Questions,
Stockholm, May
- DEWE, P., 1977, "Job design and the psychology of boredom", WRU Occasional
Paper No. 13
- DE WOLFF, C.J. and SHIMMIN, S., 1976, "Psychology of work in Europe : a review
of a profession", Personnel Psychology, Summer, 29, p.175-195
- DIALOGUE, 1974, "World of Work", Dialogue, 7, 4, p.3-52
- DICKSON, J.W., (Undated), "What's in a job", Industrial Engineer, 3, 9, p.10-14
- DICKSON, J.W., 1973, "The physical correlates of variety in work", Human
Relations, 26, p.115-33
- DICKSON, J., 1976, "What the workers want", Management Today, November,
p.75-77
- DICKSON, J.W., 1977, "The adoption of industrial democracy", Personnel Review,
(U.K.), Autumn, p.15
- DIRECTOR, 1973, "Achieving commitment to change", Director, October, p.109
- DIRECTOR, 1976, "A boost to profits through production teamwork", Director,
May, p.89

- DISHER, M., 1978, "Encouraging enterprise", Manufacturing Clothier, November, p.53-59
- DONALDSON, L., 1975, "Job enlargement: a multi-dimensional process", Human Relations, September, 28, 7, p.593-610
- DORE, R., 1973, "East, West, which is best", Sunday Times, September p.63
- DOUARD, H. and REYNAUD, J.D., 1975, "Union-management conflicts over Quality of Working Life Issues", in Davis and Cherns, The Quality of Working Life, Free Press, p.393-404
- DRAKE, R.I. and SMITH, P.J., 1973, Behavioural science in industry, McGraw Hill, Maidenhead, Berks.
- DUMONT, J.P., 1974, "Lip: a lesson in democracy", Personnel Management, August, 6, p.32+
- DY, F.J., 1978, "Technology to make work more human", International Labour Review, September, 117, p.543-55
- DYSON, B., 1973, "Hoover's Group Theory", Management Today, May
- DYSON, B., 1975, "Leading to satisfaction", Management Today, April, p.76+
- ECONOMIST, 1967, "Social studies: fact factory", Economist, February, 222, p.500-1
- ECONOMIST, 1971, "Where have all the workers gone?", Economist, 16th January, 238, p.61-2
- ECONOMIST, 1971, "What is group technology?", Economist, 6th March, 238, p 68-9
- ECONOMIST, 1971, 'Sweden: Volvo Grows UP', Economist, 240:89, 10 July,
- ECONOMIST, 1973, "What's wrong with work?", Economist, 26th May, 247, p.55
- ECONOMIST, 1974, "No more Anglo-Saxon nonsense", Economist, 13 July, 252, p.79
- ECONOMIST, 1974, "Business Brief: Sweden outdates Modern Times", Economist, 253: 78-9, 9 November

ECONOMIST, 1975, "More work for the workers", Economist, 4 October, 257, p.90

ECONOMIST, 1976, "Another way of making cars. How they do it", Economist, 25th December, 261, p.68-69

ECONOMIST, 1977, "The British at work", Economist, 1st January, 262, p.63-8+

ECONOMIST, 1977, "Not by bread alone", Economist, 5 February, 262, p.108

ECONOMIST, 1977, "Volkswagen: union versus worker", Economist, 19th March, 262, p.91-2

ECONOMIST, 1977, "Motivating the workforce is management's big task", Economist, June, p.22

EDGREN, J., 1974, "With Varying Success", Swedish Employers Confederation, Stockholm

EDGREN, J., 1974, "Swedish Experiment in work organisation", Personnel Management, June, p.25-40

EDWARDS, G.A.B., 1971, Reading in Group Technology, The Machinery Publishing Co. Ltd., London

EDWARDS, G.A.B., 1974, "Group Technology: A Technical Answer to a social problem?", Personnel Management, March, 6, 3, p.35-39

EDWARDS, G.A.B., 1974, "Group production research. A realistic experiment being conducted in Britain which aims to extend the group production system research at Volvo, Saab and Philips in assembly and Ferranti and Platt International in manufacture", Mimeo

EDWARDS, G.A.B. and SCHMITT, J.P., (undated), Manufacturing: not so much technology, more a way of Life, UMIST, Manchester

EILON, S., 1977, "How do you feel about your work", Omega, 5, 3, p.227-33

ELGOOD, B., 1971, "Scott Bader Limited: a case study of change in a smaller firm", Co-Partnership, November, 246, p.58+

ELLIOTT, J., 1976, "Qualified Success for Volvo Assembly", The Financial Times, 23 November

- ELLIOTT, K., 1975, "Management by subjectives", Management Today, September, 19+
- EMERY, F.E., 1967, "The Democratisation of the Work Place", Manpower and Applied Psychology, 1, 2, p.118-129
- EMERY, F. and THOKSRUD, E., 1976, Democracy at work, Martinus Nijhoff, Leiden
- ENGELSTAD, P.H., 1970, "Socio-Technical Approach to problems of process control", Papermaking Systems and their control, 4th International Symposium, 1970, p.91-113
- ENGELSTAD, P.H., DAVIS, L.E., and TAYLOR, J.C., 1972, "Socio-technical Approach to problems of process control", in Davis, L.E. and Taylor, J.C., Design of Jobs, Penguin
- ENGINEER, THE, 1970, "Cleaning up the 'sick jobs' brings work enrichment", Engineer, 21 May, p.15
- ENGINEER, THE, 1971, "Job enrichment - or how to make work a pleasure", Engineer, 21 October, p.48
- ENGINEERING TODAY, 1977, "Volvo v. the Assembly Line", Engineering Today, 23 June, 1, 3, p.20-23
- ENGINEERING TODAY, 1977, "Work improvement yields profits", Engineering Today, 31 October, 1, 23, p.15
- EMPLOYEE RELATIONS, 1979, "People at work", Employee Relations, 1, 1, p.iv
- ENSON, J., 1973, "Volvo Blazes a trail to America", The Financial Times, 1st October
- EUROPEAN FREE TRADE ASSOCIATION, 1973, "Volvo designs a new factory", EFTA Bulletin, December, 14, p.17-19
- EUROPEAN FREE TRADE ASSOCIATION, 1977, "Role of international organisations in improving the working environment", EFTA Bulletin
- EUROPEAN INDUSTRIAL RELATIONS REVIEW, 1975, "Job enlargement at Ladybird", European Industrial Relations Review, October, 27, p.9-13
- EUROPEAN INDUSTRIAL RELATIONS REVIEW, 1975, "Job enrichment at Telemecanique", European Industrial Relations Review, September, 21, p.17-20

- EUROPEAN INDUSTRIAL RELATIONS REVIEW, 1976, "Job Enrichment: An Assessment of the Volvo Experiment", European Industrial Relations Review, 36, p.4-6
- EUROPEAN INDUSTRIAL RELATIONS REVIEW, 1977, "New Forms of Work Organisation at Pirelli", European Industrial Relations Review, September, 45, p.5-8
- EVANS, J., 1971, "Responsibility: can we talk it?", New Society, 29th July, p.192-4
- EWING, D.W. and BANKS, P., 1977, "Participative Management at work", Harvard Business Review, January/February, p.117
- FALVEY, D., 1972, "How to group technology", Management Today, June, p.94-7
- FARNSWORTH, T., 1971, "Training down the line", Personnel Management", 3rd April, p.33-35
- FAZAKERLY, G.M., 1974, "Group technology", Production Engineer, October, p.383-386
- FAZAKERLY, G.M., 1974, "The human problems of group technology", European Business, Summer, p.50-56
- FAZAKERLY, G.M., 1976, "A research report on the human aspects of group technology and cellular manufacture", International Journal of Production Research, January, p.123-134
- FEATHER, V., 1970, "Workers' loyalty must be earned", Co-Partnership, July, 541, p.4-7
- FERRAROTTI, F., undated, "Social Research and Industry in Europe", Paris, O.E.C.D.
- FINANCIAL TIMES, 1970, "In Sweden, people count too", Financial Times, 7 July, p.17
- FINANCIAL TIMES, 1974, "More involvement, but no panacea", Financial Times, 2 August, p.15
- FINANCIAL TIMES, 1973, "A Dutch Solution to the Labour Shortage", Financial Times, 31 August, p.19
- FINANCIAL TIMES, 1973, "Management ideas from abroad", Financial Times, 31 August, p.19

FINANCIAL TIMES, 1973, "Treat the workers as adults", Financial Times, 28 September, p.23

FINANCIAL TIMES, 1975, "Lessons from the Swedish experience", Financial Times, 29 January, p.13

FINANCIAL TIMES, 1975, "Swedish Business reveals all", Financial Times, 28 February, p.19

FINANCIAL TIMES, 1975, "Bang and Olufsen", Financial Times, 12th September, The Executive World Page

FINANCIAL TIMES, 1976, "Reconstructing work-forms", Financial Times, 16 February, p.17

FINANCIAL TIMES, 1978, "Industrial Relations at Tannoy", Financial Times, 30 January - management page

FINANCIAL TIMES, 1979, "Flaws in the grand design", Financial Times, 29 January, p.17 and p.26

FLANAGAN, R.J., STRAUSS, G. and ULMAN, L., 1974, "Worker discontent and work plant behaviour", Industrial Relations, May, 13, 2, p.101-123

FLEGG, D., 1977, "New methods of work organisation", Management Services, October, p.16

FLETCHER, R., 1969, "French farce in factories", Guardian, 23 June, p.11

FLUDE, R.A., 1977, "The development of an occupational self-concept and commitment to an occupation in a group of skilled manual workers", Sociological Review, February, 25, p.41-49

FORD, G.W., (ed), 1973, Searchlight, Sydney, Wiley

FORES, M. and CLARK, D., 1975, 'Why Sweden Manages Better', Management Today, February, p.66-69

FOSTER, G., 1977, "What makes Baxi burn", Management Today, February, p.43-49 and p.106

FOY, N., 1973, "A blow at the factory automaton" The Times, 5 March

FOY, N., 1973, "Industrial Democracy at Norsk Hydro", European Business, Winter, p.30.

- FOY, N., 1974, 'Working Towards Pleasure at Volvo', The Times, 30 September, p.22
- FOY, N., 1975, 'Staff motivation is paying dividends at Bonsor', The Times, 28 July
- FOY, N., 1976, 'Volvo's job enrichment philosophy applied on a grand scale', The Times, 13 September
- FOY, N., and GADON, H., 1976, 'Worker participation', Harvard Business Review, May/June, p.71
- FRANCIS, D.R., 1968, 'Jobs Fit for Men', Management Today, November, p.105-110
- FRASER, J., 1975, 'Making Work More Satisfying', DE, H.M.S.O.
- FRENCH, J.R.P., ISRAEL, J. and AS, D., 1960, 'An Experiment in Participation in a Norwegian Factory', Human Relations, 13, February
- FRIEDMAN, A., 1977, 'Responsible Autonomy versus Direct Control over the Labour Process', Capital and Class, Spring, 1, p.43-57
- FRYER, J., 1977, 'Who wants to work in a factory?', Sunday Times, 20 November, p.63
- FRYER, M.A. and ZIMMERER, T.W., 1975, 'The work environment - key to greater productivity', The Personnel Administrator, 20, 1, p.38-42
- FULCHER, J., 1972, 'The Kockums Report: Summary', Mimeo, Kockums
- GARDELL, B., 1977, 'Autonomy and participation at work', Human Relations, June, 30, p.515-533
- GARDNER, G., 1977, 'Workers' participation: a critical evaluation of Coch and French', Human Relations, December, 30, p.1071-1078
- GARMENT WORKER, THE, 1974, 'Workers' Participation: Example of Swedish Unions', The Garment Worker, NUTGW, December
- GARNETT, J., 1973, The work challenge, Industrial Society, London
- GARRETT, M., 1978, 'Technicians and People', New Society, 16 November p.394

- GAVIN, J.F. and KELLEY, R.E., 1978, "The psychological climate and reported well-being of underground miners: an exploratory study", Human Relations, July, 31, p.567-81
- GELLERMAN, S., 1973, "Soft heart, soft head", Management Today, August, p.78
- GELLERMAN, S.W., 1974, "Behavioural science in management", Penguin, Harmondsworth
- GELLERMAN, S.W. , 1977, "Management of Human Resources", Management International Review, 17, 4, p.115
- GEORGE, K.D., McNABB, R. and SHOREY, J., 1977, "The size of the work unit and labour market behaviour", British Journal of Industrial Relations, July, 15, p.265-278
- GEORGE, W.W., 1977, "Task teams", Harvard Business Review, March/April, p.71
- GILBERTSON, G., 1975, "Power-sharing in industry", Church Information Office, London
- GILL, R., 1978, "Personnel: the production manager's fairy godmother", Personnel Management, March, 10, p.30-33
- GLASER, E.M., 1976, Productivity Gains through Worklife Improvement , Harcourt Brace, New York
- GLOBERSON, A., 1970, 'Spheres and Levels of Employee Participation in Organisations', British Journal of Industrial Relations, 8, p.252-262
- GOMBINSKI, J., 1964, Classification for Family Grouping Success: Metalworking Production , McGraw Hill, London
- GOODING, J., 1970, "It pays to wake up to the blue collar blues", Fortune, 82, 3, p 133-135
- GOODING, K., 1975, "When working in groups will pay", Financial Times, 7 March - The Executive World Page
- GORB, P., 1976, "How to manage by design", Management Today, May, p.54-57
- GORDON, J. and SWANN, H., 1973, "People at work", Personnel Management, March, 3, p.18-22

- GORDON-BROWN, I., 1970, "The management of motivation", Co-Partnership, July, 341, p.36-37
- GORMON, L. and MOLLOY, E., 1972, People, Jobs and Organisations, Irish Productivity Centre, Dublin
- GORZ, A., 1970, "Workers Control", Socialist Revolution, November/December p.17-31
- GOSS, J., 1973, "Participation - Norwegian style", Industrial Society, March, p.12
- GOTTSCHALK, A., 1973, "Industrial relations and the behavioural scientist", Personnel Management, February, 5, p.32-5
- GOWLER, D., and LEGGE, K., 1978, "Participation in context ...", Journal of Management Studies, May, 15, p.149-175
- GRANEL, M., 1978, "Comparison of work structures in machine production (engine assembly)", in A. Alioth et al (eds) Working on the Quality of Working Life, Martinus Nijhoff, Leiden
- GREEN, M., 1972, "When workers make the decisions", Daily Telegraph, 14 November, p.15
- GREENEL, R.J., 1978, "11 ways to harness the will to work", Director, February, 30, p.57-58
- GREENWOOD, W.T., 1965, Management and organisational behaviour theories: an interdisciplinary approach, Arnold
- GREIG, A., 1973, "Need Jack be a dull boy?", New Society, 15 February, p.347-348
- GRETTON, J., 1972, "Control of work", New Society, 23 March, p.594
- GRIEW, S., 1964, "Job re-design", O.E.C.D.
- GRUNWALD, D.H., 1978, "Work restructuring in the Berkel factory, Rotterdam", in A. Alioth et al (eds), Working on the Quality of Working Life, Martinus Nijhoff, Leiden
- GUARDIAN, 1970, "Learning while you work", Guardian, 22 September, p.17

- GUEST, D., and FATCHETT, D., 1974, Worker participation: individual control and performance, Institute of Personnel Management, London
- GUEST, D., WILLIAMS, R., and DEWE, P., 1978, "Job Design and the Psychology of Boredom", WRU Occasional Paper No. 13
- GULOWSEN, J., 1975, "Organisational design in industry - towards a democratic socio-technical approach", Personnel Review, 2, 2, p.30-37
- GULOWSEN, J., HAUG, O., and TYSLAND, T., 1969, "Norwegian firm taps total human resources", Industrial Engineering, August 1, 8, p.30-34
- GUNTER, H., 1974, "Labour oriented approaches to the humanisation of work", International Institute for Labour Studies, Bulletin No. 11. p.21-24
- GUNTER, H., 1977, "Humanisation of Work", Labour and Society, January, p.89
- GUNTON, M., 1976, "Improving performance through commitment", International Management, January, 31, p.33-35
- GUSTAFSEN, J., 1977, "A legislative approach to job reform in Norway", International Labour Review, May/June, 115, 3
- GUSTAFSON, J.P., 1973, "Task commitment and role differentiation", Human Relations, 26, p.667-679
- GUSTAFSON, J.P., 1976, "The passive small group : working concepts", Human Relations, 29, 8, p.793-803
- GYLLENHAMMAR, P., 1973, (Untitled article), Sunday Telegraph, 4 December
- GYLLENHAMMAR, P., 1974, "Changing work organisation at Volvo", Industrial Participation, Spring, p.5-10
- GYLLENHAMMAR, P., 1974, "Participation at Volvo", Journal of General Management, Summer, p.34-47
- GYLLENHAMMAR, P.G., 1977, "How Volvo adapts work to people", Harvard Business Review, July/August, p.102
- GYLLENHAMMAR, P., 1977, "People at work", Industrial and Commercial Training, 9, 10, p.437
- GYLLENHAMMAR, P., 1978, People at Work, Addison-Wesley (U.K.)

- HACKMAN, J.R. and SUTTLE, J.L., 1977, 'Improving life at work: behavioural science approaches to organisational change', Santa Monica, Goodyear Publishing Co.
- HALL, P., 1975, "Job structuring and Work Organisation", in K. Elliott (ed), 'Management Bibliographies and Reviews', Vol. 1, MCB Books, Bradford
- HALL, P.D., 1975, "Survey of the Published Benefits of Group Working", Metalworking Production, February
- HALLAM, P.A., 1973, "An Experiment in 'Group Working'", Work Study and Management Services, April, p.240-244
- HAMILTON, A., 1972, "Reaping the rewards of worker participation", The Times, 6 November, p.20
- HAMMER, T.H., 1976, "Work organisation study of manual work and mass production", Administrative Science Quarterly, 21, 4, p.740-3
- HAMMOND, B., 1973, "Death of the Assembly Line ... Birth of People Power", Europa Magazine, 1, July/August, p.42-3
- HAMPTON, D.R. (ed). 1968, 'Behavioural concepts in management', Dickenson, California,
- HAMPTON, D.R., SUMMER, C.E. and WEBBER, R.A., 1968 Organisational behaviour and the practice of management, Glenview, Illinois, Scott Foresman
- HANDY, C., 1977, "Management by consent", Management Today, February, p.68+
- HARGROVE, M.M. et al, 1969, Business policy cases with behavioural science implications, Homewood, Illinois, Irwin.
- HARLAND, P. and FRYER, J., 1978, "The ICI lament: where have all our Tiffies gone?", Sunday Times, 18 June, p.63
- HARP, B. and SABULLUS, D., 1971, "Turnover decreased, efficiency increased, absenteeism reduced, morale improved", Assembly Engineering, July, p.14-17
- HARPER, K., 1973, "Working wonders", Guardian, 4 June, p.10
- HARRISON, R., 1976, 'Worker Participation in Western Europe', IPM, London

HARTLEY, J., 1974, "Work-how-you-like modules for suiting operations to output", The Engineer, 25 July, p.38-9

HARVARD BUSINESS REVIEW, 1977, "Task Teams for rapid growth", Harvard Business Review, March, 55, p.71-80

HARVEY, D., 1973, "Better ways to put the pieces together", Business Administration, April, p.82-83

HARVEY, D., 1974, "Morgan - a suitable example for industry", Industrial Management, December/January, p.22-25

HARVEY, P.G., 1974, "How ICI practises participation", Financial Times, 19 June, p.19

HAUG, M.R. and DOFNY, J. (ed), 1977, Work and technology, Sage

HAWKINS, K. and MOLANDER, C., 1971, "Supervisors out in the cold", Personnel Management, April, 3, p.37+

HAYES, C., 1978, "Groundwork for a flexible future", Personnel Management, March, 10, p.27-9

HAYS, K., 1976, "My own engine", Sweden Now, 4, p.25-26

HEBDEN, J. and SHAW, G., 1976, "Pitfalls in Participation", Management Today, January, p.68-88

HEDBERG, M., 1972, "Summary of Trial Activities at present being conducted concerning changes in work organisation", Swedish Council for Personnel Administration, Stockholm - Duplicated Report.

HELLER, R., 1969, "Is business dangling the wrong carrot?", Observer, 19 October, p.11

HELLER, R., 1970, "Too remote control", Observer, 2 August, p.14

HELLER, F.A., 1976, "On the misuse of human skill", in M. Weir (ed) Job Satisfaction, Fontana, London

HELLER, F.A. et al, 1977, "A longitudinal study in participative decision-making", Human Relations, 30, p.567-587

HELLER, F.A., 1977, "Does worker participation work?", National Bank Monthly Summary, September, p.5-8

- HELLER, F., 1978, "The Realities of Participation", Management Today, March, p.75
- HELLER, F.A. and CLARK, A.W., 1976, "Personnel and human resources development", Annual Review of Psychology, 27, p.405-35
- HELLER, R., 1973, "Participation is the latest fashion rage", Guardian, 2 October, p.19
- HELSBY, D., et al., 1977, "A role for the industrial engineer in job redesign", Management Services, November, p.16
- HENDERSON, J., 1970, "The Compleat Worker", Industrial Society, April, p.6
- HEPWORTH, A., (Undated), "Danish company experiment with small work groups", Mimeo, Institute of Management Services
- HEPWORTH, A., 1975, "Salesmen, Secretaries and Order Processing Clerks - 3 European cases of work structuring", Bulletin of the British Psychological Society, 28, May, p.236
- HEPWORTH, A. and OSBALDESTON, M., 1975, "Restructuring of the motor insurance section, eastern zone", Ashridge: Ashridge Management College
- HEPWORTH, A., and OSBALDESTON, M., 1975, "The introduction of autonomous work groups in a small marketing company", Ashridge: Ashridge Management College
- HEPWORTH, A., and OSBALDESTON, M., 1976, "Small Work Groups", (1), The Financial Times, 1 March - The Executive World Page
- HEPWORTH, A., and OSBALDESTON, M., 1976, "Small Work Groups", (2), The Financial Times, 8 March - The Executive World Page
- HERBST, P.G., 1962, Autonomous Group Functioning , Tavistock, London
- HERBST, P.G., 1974, Socio-technical design , Tavistock, London
- HERBST, P.G., 1974, "Some Reflections on the Work Democratization Project", A1 DOC, 13, Oslo, Work Research Institute
- HERBST, P.G., 1976, Alternatives to Hierarchies , Martinus Nijhoff, Leiden
- HERBST, P.G. and GETZ, I., 1977, "Work organisation at a banking branch: towards a participative research technique", Human Relations, February, 30, p.129-142

- HERRICK, N.Q., 1973, "Government approaches to the humanisation of work", Monthly Labor Review, April, 96, p.52-54
- HERRICK, N.Q. and MACCOBY, M., 1975, "Humanizing work: a priority goal of the 1970's", in L. Davis and A. Cherns, The Quality of Working Life, p.63-77
- HERZBERG, F., 1972, "Restructured jobs boost morale", International Management, December, 27, p.24-6+
- HERZBERG, F., 1974, "The wise old Turk", Harvard Business Review, September/October, p.70-81
- HETHY, L. et al., 1978, "Worker Participation in Practice", Personnel Review, Spring, p.18
- HIGGIN, G., 1972, "The Scandinavians Rehearse the Liberation", Journal of Applied Behavioural Science, 8, p.643-663
- HIGGIN, G., 1973, Symptoms of Tomorrow, Ward Lock/Plume Press, London
- HIGGINS, M.C. and JONES, M.J.D., 1976, "Experiment at Brandon : a research report", London in association with Industrial Training Research Unit, Cambridge
- HILGENDORF, E.L. and IRVING, B.L., 1976 "Worker's experience of participation - the case of British Rail", Human Relations, 29, p.471-505
- HILL, P., 1971, Towards a New Philosophy of Management, Gower Press, London
- HILL, P., 1975, "Group technology at Volvo", Design (U.K.), April, p.56
- HILL, P., 1976, "A job worth doing", Management Services, January, 20, 1, p.5-9
- HILL, R., 1972, "The team effort at Motorola", International Management, 27, p.43-45
- HILL, R., 1977, "The Boss Who Gives No Orders", International Management, April, p.27
- HILL, S., 1974. "Norms, groups and power: the sociology of workplace industrial relations", British Journal of Industrial Relations, July, 12, 2, p.213-235

- HILTON, A., 1970, 'Hot Profits in a Cold Climate', Observer, 22 November
p.13
- HINES, J., 1976, "Work groups under stress", Industrial Society, September-
October, 58, p.17-19
- HOLLIER, D., 1974, "Job enrichment at IBM", Business Administration, (U.K.)
October, p.37
- HOLLINGUM, J., 1972 "Group Technology Proves its worth in the best way",
The Engineer (London), 6 January, p.38-39
- HOLLINGUM, J., 1973, "Self-determination is moving along the assembly line",
The Engineer, 8 November, p.64
- HOLMELIUS, K., 1973, "Group Assembly at Saab-Scania", Works Management,
December, p.4-5
- HOLTE, J.M., 1970. "Experiments in Co-operation", Co-Partnership, October,
p.31-38
- HORT, J., 1978, "Clerical employees at B.A.J. Hamburg re-organise their own
work", in A. Alioth et al (eds), Working on the Quality of Working Life,
Martinus Nijhoff, Leiden
- HUGHES, J. and GREGORY, D., 1974, 'Richer Jobs for Workers?', New Society,
14 February, p.386-387
- HULL, D., 1978, The Shop Stewards' Guide to Work Organisation, Spokesman,
Nottingham
- HUNTER, J. and CRAMPTON, D.B., 1977, "Job Satisfaction : Bridging the
Information Gap", Management Services in Government, August, p.134
- HUSE, and BEER, 1971, "Eclectic approach to organisation development",
Harvard Business Review, 49, 5, p.103-112
- HUSSEY, D., 1977, "Participation at Rolls Royce", Director, March, p.48
- HUTTON, G., 1970, "Work groups and job design", Work Study and Management
Services, March, p.211-216
- HYETT, K., 1977, "Management by bootlaces", Management Today, May, p.19+

- IBBETSON, J.F., 1978, Management of motivation and remuneration , Business Books
- IDE, C., 1978, "Improving the quality of working life", Journal of the British Boot and Shoe Institution, July/August, No. 24
- IMAN, S.C., 1975, "The Development of Participation by Semi-autonomous work teams: the case of Donnelly Mirrors", in L. Davis and A. Cherns, The Quality of Working Life , p.216-231
- INDUSTRIAL AND COMMERCIAL TRAINING, 1972, "Not for bread alone", Industrial and Commercial Training, March, p.129
- INDUSTRIAL AND COMMERCIAL TRAINING, 1977, "Worker Participation - Short Survey with latest developments", Industrial and Commercial Training, 9, 1, p.38-9
- INDUSTRIAL AND COMMERCIAL TRAINING, 1977, "Workers participation in decisions within undertakings", Industrial and Commercial Training, 9, 2, p.87
- INDUSTRIAL AND COMMERCIAL TRAINING, 1977, "Participation - why all fuss", Industrial and Commercial Training, 9, 4, p.135
- INDUSTRIAL AND COMMERCIAL TRAINING, 1977, "Self-governing work groups", Industrial and Commercial Training, 9, 6, p.225-228
- INDUSTRIAL AND LABOR RELATIONS REPORTS, 1975, "The future of work", /four articles/, Industrial and Labor Relations Report, Fall, 12, p.13-28
- INDUSTRIAL MANAGEMENT, 1977, "Sour edge to job enrichment", Industrial Management, June, p.7
- INDUSTRIAL MANAGEMENT, 1978, "In place of the autocrat", Industrial Management, (U.K.), May, p.14-15
- INDUSTRIAL RELATIONS REVIEW AND REPORTS, 1976, "Self Directed Workgroups at Emcar", Industrial Relations Review and Reports, March, No. 123
- INDUSTRIAL RELATIONS REVIEW AND REPORTS, 1976, "Team Assembly work at Hellerman Deutsch", Industrial Relations Review and Reports, October, 138, p.9-10
- INDUSTRIAL RELATIONS REVIEW AND REPORTS, 1977, "Job Redesign for Custard Cream Workers: the Associated Biscuits' Experience", Industrial Relations Review and Reports, April, 150, p.10-12

INDUSTRIAL SOCIETY, 1974, "Baxi", Industrial Society, November/December, p.11

INDUSTRIAL TRAINING RESEARCH UNIT, "Versatility at Work : A Study of Self Training and Autonomous Group Working" ITRU Research Paper, TR6

INDUSTRY WEEK, 1970, "Making men interested in their work", Industry Week, 15 May, p.18

INDUSTRY WEEK, 1971, 'Sweden's Volvo lets employees participate to boost output', Industry Week, 170 : 18, September 20

INDUSTRY WEEK, 1974, "Group assembly: how it works at Saab", Industry Week, 10 June, 181, p.47-49

INTERNATIONAL LABOUR OFFICE, 1979, "New Forms of Work Organisation", (2 vols.), Geneva, ILO

INTERNATIONAL MANAGEMENT, 1973, Untitled article, International Management, 28, 2, February

INTERNATIONAL MANAGEMENT, 1977, "Worker Participation at ICI", International Management, April, p.33

INTERNATIONAL MANAGEMENT, 1977, "Training for meat processing", International Management, August, p.44

IVANOV, E.K., (undated), "Organisation and Technology of Group Production", Business Publications, London

IVENS, M., 1973, "A constructive role for the worker", Daily Telegraph, 14 June, p.18

JACKSON, P., 1973, "Better working lives: an organisational consultant's view", Occupational Psychology, 47, p.29-31

JACOBS, F. and COWDEN, P., 1977, "Relevance of recurrent education to worker satisfaction", Monthly Labor Review, April, 100, p.61-64

JAMES, L., 1978, "The behavioural sciences and the dilemma for business management", Contemporary Review, June, 232, p.316-322

JACQUES, B., 1977, "Labour of love", Hi-Fi and Industry

JAQUES, E., 1970, "Industry's human needs", Management Today, May, p.82

JENKINS, D., 1974, "Job Power", Heinemann, London

JENKINS, D., (ed), 1975, "Job Reform in Sweden: conclusions from 500 shop floor projects", Swedish Employers Confederation, Stockholm

JENKINS, D., 1977, "The democratic factory", Management Today, April, p.70+

JENKINS D., 1978, "The West German Humanisation of Work Program - a preliminary assessment", Work Research Unit Occasional Paper No. 3

JENKINS, D., 1978, "Shopfloor: the truth at Volvo", Management Today, October, p.84-89

JENKINS, D., 1978, "The supervisor solution", Management Today, May, p.74-76

JESSUP, G., 1978, "Technology as if people mattered", WRU, Department of Employment WRU Occasional Paper No. 12, (Invited paper given at the International Labour Office Symposium on 'New Trends in the Optimisation of the Working Environment', Istanbul, Turkey, May 1978)

JOHNSON, A.G., 1976, "The manager: employer or employee? Personnel Management, November, 8, p.20+

JOHNSON, P., 1976, "Hedonist hypotheses", Daily Telegraph Magazine, 23 July, p.7

JOHNSTON, D.F., 1972, "The Future of work: three possible alternatives", Monthly Labor Review, May, 95, p.3-11

JONES, J., 1977, "Democracy must not stop at the factory gate", Times, 29 January, p.12

JONES, K., 1971, "Involvement in decision-making", Co-Partnership, January, 543, p.23-31

JONES, L., 1978, "Work Structuring for Employee Motivation", Education and Training, (U.K.), October, p.280

JONES, L., 1978, "Work Structuring for Employee Motivation", Education and Training, (U.K.), November/December, p.290

JONES, L., 1978, "Employee Involvement at General Motors", Education and Training, June, p.191

JOURNAL OF THE MARKET RESEARCH SOCIETY, 1970, "Whatever happened to motivation research?", Journal of the Market Research Society, 12 January

- KANAWATY, G., (ILO MANAGEMENT DEVELOPMENT BRANCH), 1973, "Labour Management Co-operation in Work Organisation: Cases and Issues", Management and Productivity, Geneva, 38
- KASSALOW, E.M., 1977, "White-collar unions and the work humanisation movement" Monthly Labor Review, May, 100, p.9-13
- KATZELL, R.A. et al., 1975, Work Productivity or Job Satisfaction, Harcourt Brace-Jovanovitch, New York
- KATZELL, R.A., et al., 1977, "A guide to worker productivity experiments in the United States 1971-75", New York University Press, New York
- KELLOCK, B.C., 1974, "Group assembly at Dertling", Machinery and Production Engineer, 5 June, p.692-694
- KEMPNER, T. and WILD, R., 1973, "Job design and productivity", The Journal of Management Studies, February, p.64
- KENNY, T.P., 1975, "Stating the case for welfare", Personnel Management, September, p.18+
- KENTON, L., 1973, "The seven year itch", Industrial Management, May, p.14-19
- KEYWORTH, S., 1975, "Worker Cooperatives and their dividends for management", Personnel Management, October 7, p.24-27
- KLEIN, L., 1976, New forms of work organisation, C.U.P., London
- KLEIN, L., 1977, "Designing jobs fit for the people who do them", The Times, 20 June, p.23
- KLEIN, L., 1978, "Contributions from the behavioural sciences", in Institution of Civil Engineers, 'Management of Large Capital Projects', London, Institution of Civil Engineers, p.137-146
- KLEIN, L., 1978, "The Production Engineer and Industrial Relations", Production Engineer, December, p.27
- KOLASA, B.J., 1969, Introduction to behavioural science for business, Wiley, New York/London,
- KONDO, T., 1973, "How much progress in the quality of working life?", Management Today, November

- KRUSE, G., et al., 1975, "Design of a group technology plant and its associated production central system", Production Engineer, July-August, p.417-421
- LAING, H., 1973, "Working together effectively", Industrial Participation, Autumn/Winter, 553, p.9+
- LANDEN, D.L., 1977, "Improving the quality of working life", Education and Training, 19, 1, January, p.3 and p.9
- LANE, A.D., 1969, The Machine Minders, New Society, 30 January, p.163-164
- LAWRENCE, S., 1970, "Man of the moment: switched on the behavioural scene", Personnel Management, July, 2, p.12-13
- LEIGH, A., 1969, "Human Beings Matter", The Observer, 4 May
- LEIGH, A., 1969, "Making work fit", Business Management (London), September, 99, p.46-48
- LEIGH, A., 1972, "Come home, Santa Claus", Observer, 14 May, p.38+
- LEIGHTON, M., 1978, "The workers' triumph: Meriden motor cycle works", Sunday Times Magazine, 4 June, p.18+
- LEONARD, R. and RATHMILL, K., 1977, "Group technology myths", Management Today, January, p.66-69
- LESS, A.G., 1968, "Factors in Motivation", Iron and Steel Institute Conference Papers, Organisation of Maintenance, ISI reprint 118, September
- LEVINE, R., 1976, "Searching for better ways to work", The Financial Times, 12 January, The Executive World Page
- LEVINSON, H., 1973, "Asinine attitudes toward motivation", Harvard Business Review, January/February, 51, p.70-76
- LEVITAN, S.A. and JOHNSON, W.B., 1973, "Job redesign, reform, enrichment - exploring the limitations", Monthly Labor Review, July, 96, p.35-41
- LEVITAN, S. and JOHNSTON, W., 1973, "Changes in work: more evolution than revolution", Manpower, September, p.2-8
- LIDBOM, T., 1971, "Industrial democracy in Sweden", Free Labour World, November, 257, p.14-17

- LIKERT, R., 1974, "Job enrichment - long on theory, short on practice", Organisational Dynamics, 2, 3, p.45
- LIKERT, R., 1975, "Improving cost performance with cross-functional teams", Conference Board Record, September, xii, 9, p.51-9
- LINDESTAD, H. and KVIST, A., 1975, "The Volkswagen Report", Swedish Employers Confederation
- LINDESTAD, H. and NORSTEDT, J.P., 1973, Autonomous Groups and Payment by Result, Swedish Employers' Confederation, Stockholm
- LINDHOLM, R., 1975, "The New Working Life: Some Swedish Experiences in the Field of Work Organisation and Factory Design", Production Engineer, September p.493+
- LINDHOLM, R. and NORSTEDT, J.P., 1975, The Volvo Report, Swedish Employers Federation, Stockholm
- LIPPITT, G.L., 1978, "Quality of Work Life: Organisation Renewal in Action", Training and Development Journal, July, 32, p.4-10
- LISCHERON, J. and WALL, D., 1975, "Attitudes towards participation among local authority employees, Human Relations, August, 28, 6. p.499-517
- LOCKETT, M., 1978, Fakenham Enterprises, Co-operatives Research Unit, The Open University
- LORD, D., 1971, "Avon Rubber's struggles in applying motivation", International Management, July, 26, p.33+
- LOWNDES, R., 1975, "Supervisory training in Holland and Denmark", (1), Industrial and Commercial Training, July, p.281
- LOWNDES, R., 1975, "Supervisory training in Holland and Denmark", (2), Industrial and Commercial Training, August, p.311+
- LUNDGREN, D.C. and BOGART, D.H., 1974, "Group size, member dissatisfaction; and group radicalism", Human Relations, April, 27, p.339-355
- LUPTON, T., 1971, "Organisation Change - Top Down or Bottom Up Management", Personnel Review, October
- LUPTON, T., 1975, "'Best fit' in the Design of Organisations", Personnel Review, 4, 1

- LUPTON, T., 1975, 'Efficiency and the Quality of Work Life', Organisational Dynamics, Autumn, p.68-80
- LUPTON, T., 1977, 'Efficiency and the Quality of Work Life', Manchester Business School Review, 2, 2, p.16
- LYES, L.V., 1972, 'Participation in Rank Xerox', Work Study and Management Services, November, 16, p.607-610
- MACBEATH, I., 1973, 'Industry: from dividing the cake to sharing the baking equipment', The Times, 9 July, p.14
- MACBEATH, I., 1973, 'The European approach to worker-management relationships', London, British-North American Committee
- MACBEATH, I., 1974, 'The politics of participation', Management Today, February, p.35
- MACBEATH, I., (undated), 'The European approach to worker-management relationships', (p.79-86), Mimeo held in B.I.M. Library
- MCCARVEY, P., 1973, 'Car-making without the boredom', Sunday Telegraph, 4 February
- MCCLELLAND, W.G., 1976, 'And a new earth. Making tomorrow's society better than today's', London, Friends Home Service Committee, 1976
- M'COMSKY, J.G., 1977, 'Personal goals and work design', British Journal of Psychology, February, p.148-149
- MCCULLOUGH, G.E., 1975, 'The Effects of Changes in Organisation Structure: Demonstration Projects in an Oil Refinery', in L. Davis and A. Cherns, 'The Quality of Working Life', p.232-252
- MCCARVEY, P., 1973, 'Car making without boredom', Sunday Times, 4 February
- MCGOVERN, T. and WALLACE, B., 1973, 'Group technology in the machine tooling industry', Management (Dublin), December, p.73-74
- MACKENZIE, E., 1971, 'Employees redesign their jobs in Norway', (1) International Management, August, 26, p.38-39+
- MACKENZIE, E., 1971, 'Employees redesign their jobs in Norway', (2) International Management, December, 60, p.32+

- McKINNON, R., 1970, "A big boost for batch production", Business Administration, (London), August, p.25-26
- McKINNON, R., 1977, "Job Enrichment: Implications for Safety", Occupational Safety and Health, October, p.8
- McLEAN, A.J. and SIMS, D.B.P., 1978, "The theoretical poverty of job enrichment". Personnel Review, Spring, p.5
- MACSWEEN, J., 1973, "Manpower, job enrichment, the work ethic and welfare reform", The Labour Gazette, March, 73, 3, p.157-162
- MACHIN, M., 1976, "Improving the quality of working life: a note from GKN Shotton Ltd.", Industrial Participation, Autumn, 559, p.16-17
- MACHIN, M., 1977, "Wolverhampton Industrial Engines Ltd.", Industrial Participation, Autumn, 562, p.26-29
- MAHER, J.R., 1971, "New Perspectives in Job Enrichment", Van Nostrand Reinhold
- MANAGEMENT DECISION, 1978, "Employment and the meeting of human needs", Management Decision, 6, p.300
- MANAGEMENT DECISION, 1978, "Work system design - deciding between alternatives", Management Decision, 6, p.321
- MANAGEMENT DECISION, 1978, "Orientation to work and job/work design", Management Decision, 6, p.338
- MANAGEMENT INTERNATIONAL REVIEW, 1976, Work organisation - Wild, R., Management International Review, 16, 1, p.117
- MANAGEMENT INTERNATIONAL REVIEW, 1976, "Job Power - Blue and White Collar Democracy", Management International Review, 16, 1, p.120
- MANAGEMENT INTERNATIONAL REVIEW, 1976, "Job enrichment and organisational change", Management International Review, 16, 4, p.115
- MANAGEMENT TODAY, 1970, "Industry's human needs", Management Today, May, p.83
- MANAGEMENT TODAY, 1972, "The organisation of change", Management Today, March, p.74
- MANAGEMENT TODAY, 1975, "Why Sweden manages better", Management Today, February, p.66

- MANGHAM, I., 1978, Interactions and intervention in organisations , Wiley, Chichester,
- MANUFACTURING MANAGEMENT, 1972, "Work-teams at Pye beat production line problems", Manufacturing Management, December, p.18-19
- MANUFACTURING MANAGEMENT, 1974, "How Dick Wood fought the freeze", Manufacturing Management, March, p.12-15
- MARGERISON, C.J., 1973, Managing Effective Work Groups , McGraw Hill, Maidenhead, Berkshire
- MARGERISON, C.J., 1974, "Group development: a question of consulting strategy", Journal of European Training, 3, 3, p.247-261
- MARKETING, 1971, "Enrich your salesmen's jobs", Marketing, September, p.42
- MARKLEW, J.J , 1971, "Advanced overall approach to production management at ICL Belfast", Machinery and Production Engineering, 23 June, p.934-940
- MARKLEW, J.J., 1974, "Fiat examines fresh techniques for producing motor cars", Machinery and Production Engineering, 16 January, p.54-59
- MARSH, J., 1970, "Human Relations in Industry in the '70s", Co-Partnership, October, 542, p.5-15
- MARSH, J., 1974, "Humanising work", Royal Society of Arts Journal, March, 122, p.203-213
- MAUDE, B., 1977, "Why Christie Tyler lost its foremen", Supervisory Management, Winter, 28, 4, p.16-18
- MAUDE, B., 1977, "Work groups in the Furniture Industry", Chief Executive Monthly, November, p.72
- MELMAN, S., 1958, Decision-Making and Productivity , Blackwell, Oxford
- MERRITT, G., 1975, "Renault attempts Volvo assembly experiment", Financial Times, 12 July
- MILLER, E.J., 1977, "Organisational Development and Industrial Democracy: a current case study", in C.L. Cooper (ed), Organisational Development in the U.K. and U.S.A. , Macmillan

- MILLER, E.J., 1976, Task and Organisation, Wiley, London
- MILLER, E.J., 1976, "Organisational Development and Industrial Democracy", in C.L. Cooper 'New Directions in Organisational Development', Macmillan, London
- MILLS, T., (undated), "Quality of work - an emerging art and science", Booklet of the Working Together Campaign, Contemprint Ltd., London
- MILLS, S., 1973, "Job Design", Personnel Review, (London), Spring, 2, 2, p.68
- MILLS, T., 1976, "Work groups in coal mining", Monthly Labor Review, October, p.3
- MINERS, H., 1978, "Managing down the line", Management Today, November, p.67
- MINOGUE, K., 1974, "Working on the pleasure principle", Times Literary Supplement, 30 August, p.929-930
- MIRE, J., 1973, "European workers' participation in management...", Monthly Labor Review, February, 96, p.9-15
- MIRE, J., 1974, "Improving working life - the role of European unions...", Monthly Labor Review, September, 97, p.3-11
- MIRE, J., 1975, "Trade Unions and Worker Participation in Management", in L. Davis, and A. Cherns, The Quality of Working Life, p.416-438
- MITCHELL, M.R., 1975, "New forms of work organisation", Work Study and Management Services, November, p.402-407
- MITCHELL, P., 1978, "Participation in Sweden", Industrial and Commercial Training, December, p.510
- MORGAN, J.B., and CORLETT, E.N., 1977, "Work organisations and attitudes in garage workshops - planning for the 1980s", DE Gazette, September
- MORGAN, J.B. and HALE, M., 1977, "Work organisationa and attitudes in garage workshops", Institute of the Motor Industry Education Trust Fund, and, Work Research Unit, Department of Employment. Department of Engineering Production; University of Birmingham, Interim Report - June 1977
- MORGAN, J.B. and HALE, M., 1978, "Work Organisation and Attitudes in Garage Workshops", Institute of the Motor Industry, Fanshaws, Brackendon, Herts.

- MORTON, H.C., 1977, "Look at factors affecting the quality of working life", Monthly Labor Review, October, 100, p.64-65
- MULLINS, P.J., "Mixing flowline with group assembly", Automotive Industry, 15 March, 154, p.26-27
- MUMFORD, E., 1976, "A strategy for the redesign of work", Personnel Review, Spring, p.33+
- MUMFORD, E., 1976, "Towards the democratic design of work systems", Personnel Management, 8, 9, September, p.32-37
- MUMFORD, E., 1970, "Job satisfaction: a new approach derived from an old theory", Sociological Review, March, 18, p.71-101
- MURRAY, M., and SPINK, P., 1979, "Socio-technical systems in mining (1951, 1955, 1969): Three follow-up studies", Tavistock, London, May
- MURRELL, H., 1977, "Work stress and mental strain", WRU Occasional Paper No.6
- MUYZENBERG, L. van den., 1976, "Boost your profits through production teamwork", Director, May, 28, p.89-90+
- MYERS, M.S., 1970, Every Employee a Manager, McGraw Hill
- MYERS, M. SCOTT, 1971, "Overcoming union opposition to job enrichment", Harvard Business Review, May/June, 49, p.37-49
- NARRAMORE, G.M., 1972, "The Future of Participation in Ireland", Industrial Engineer, 4, 6, p.6
- NAS, P., 1975, 'Top management views on work motivation and personnel management', Sociological Abstracts, August, p.598-599
- NEW SCIENTIST, 1972, "Ariadne", New Scientist, 13 April, p.104
- NICHOL, J.D., 1971, "Formation of man-machine groups", Seminar at the University of Aston in Birmingham, Institution of Production Engineers
- NICHOLS, T. and BEYNON, H., 1977, Living with Capitalism, RKP, London
- NINANE, P. and FIEDLER, F.E., 1970, "Member reactions to success and failure of task groups", Human Relations, February, 23, p.3-13

- NOORDHOF, D., 1974, "Work structuring and consultation at Philips", Industrial Participation, Summer, p.3-7
- NORD, W.R. and DURAND, D.E., 1975, 'Beyond Resistance to Change', Organisational Dynamics, Autumn, p.2-19
- NOREN, A.E. and NORSTEDT, J.P., 1975, "The Orrefors Report", Swedish Employers Confederation
- NORMAN, P., 1976, "The pleasures of life : work", Sunday Times, 18 January, p.33
- NORSTEDT, J.P. and AGUREN, S., 1973, "The Saab-Scania Report", Swedish Employers Confederation, Stockholm
- NOVARA, F., 1973, "Job enrichment in the Olivetti Company", International Labor Review, 108, 4, p.283-294
- OAKESHOTT, R., 1977, "Tomorrow's industry", Economist, 8 January, p.31+
- OAKESHOTT, R., and WELLENS, J., 1978, "Industrial Co-operatives: the Mondragon Example", Industrial and Commercial Training, February, p.50
- OATES, D., 1972, "British Oxygen gets people involved", International Management, July, 27, p.30-2+
- OATES, D., 1972, "Focus on the future at Agfa-Gevaert", International Management, August, 27, p.23-26
- OATES, D., 1973, "Team concept brings job satisfaction", International Management, February, 28, p.33-36
- OATES, D., 1973, "Recognising the Value of People", International Management, March, 28, p.36-39
- OATES, D., 1974, "Switching off the assembly line", International Management, December, 29, p.61+
- OATES, D., 1975, "Eyewear plant focuses on job enrichment", International Management, September, p.40+
- OATES, D., 1976, "Harnessing the worker's motivation", International Management, February, 31, p.45-46+

OATES, D., 1978, "Lessons from the Volvo experience", International Management, February, 33, p.42-43+

OBSERVER, 1973, Untitled article, The Observer, 13 May

O'CONNOR, C., 1974, "Cutting the assembly line can bring back men to car plants", The Engineer, 20 June, p.30-31/33

OLDHAM, G.R., 1976, "Job characteristics and internal motivation - moderating effect of interpersonal and individual variables", Human Relations, 29, 6, p.559-69

OLSEN, E.E., 1974, Experiments in Industrial Cooperation, Federation of Danish Mechanical Engineering and Metalworking Industries, Copenhagen

ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, 1974, "Advances in Work Organisation: International Management Seminar - Final Report", OECD, Paris,

ORKIN, H., 1973, "Must I be a Group?", Daily Telegraph Magazine, 16 March, p.7

OSBALDESTON, M.D., 1976, "Skandia Insurance Group: restructuring the work and enriching the job", Management International Review, 16, 2, p.9-22

OSBALDESTON, M.D. and HEPWORTH, A., 1975, "White-collar work structuring - the European experience", European Institute for Advanced Studies in Management. Seminar on personnel research in Europe, Brussels, 25-27 March 1975, Mimeo

OTTAWAY, R.N., 1976, "A Change Strategy to Implement New Norms", Personnel Review, Winter, 5, 1,

OTTAWAY, R.N., (ed), 1977, Humanising the Workplace, Croom Helm, London

OTTAWAY, R., 1977, "Humanising the workplace", Industrial and Commercial Training, 9, 8, p.349-350

OWEN, D., 1971, 'How Volvo looks after its workers', Daily Telegraph, 6 April, p.9

OWEN, T., 1973, "Advances in Work Organisation", Work Study, (U.K.), July, p.21-27

- PAGE, D., 1977, "Avoiding Breakdown in a Working Group", Education and Training, June, p182
- PALMER, D., 1972, "Saab axes the assembly line", Financial Times, 23 May, p.17
- PATERSON, P., 1974, 'Wild Raspberries', New Statesman, 22 March, p.392
- PATERSON, T.T., 1960, "Glasgow Limited", C.U.P., Cambridge
- PAUL, W.J., 1970, "The mechanics of motivation", Management Today, Annual Review, p.27+
- PAUL, W.J. and ROBERTSON, K.B., 1970, "Learning from Job Enrichment", Central Personnel Department, I.C.I. Ltd.
- PEACOCK, B., 1977, "Job redesign in binding - case study", Ergonomics, 20, 5, p.575-577
- PEARCE, A.W., 1972, "Employee participation : involvement or negotiation?", Industrial Participation, Autumn, 549, p.7+
- PEARCEY, D., 1977, "Self organised workgroups in the clothing industry", Bacie Journal, February, 31, p.2
- PELISSIER, R.F., 1965, "Successful Experience with Job Design", Personnel Adminiscration, March/April, 28, p.12-16
- PERKS, M., 1971, "We hope you'll enjoy working for us...", Personnel Management, August, 3, p.36-37
- PERSONNEL JOURNAL, 1972, "Elements of meaningful work", Personnel Journal, March, 51, p.208+
- PERSONNEL MANAGEMENT, 1969, "Team approach to training", Personnel Management, 1 July, p.14-15
- PERSONNEL MANAGEMENT, 1974, "Work groups and training", Personnel Management, November, 6, p.15+
- PERSONNEL MANAGEMENT, 1978, "Firms communications project well taped", Personnel Management, August, 10, p.13+

- PETERSON, R.B., 1976, "Swedish experiments in job reform", Business Horizons, June, 19, p.13-22
- PHILIPS, 1968, Work Structuring : A Survey of Experiments at N V Philips , Eindhoven
- POPOCK, P., 1973, "Participation in Preston", Personnel Management, December, 5, p.31-33
- PONSFORD, N.R. and CARPENTER, P.J., 1978, "Employee Involvement and Participation", Personnel Review, Spring, p.11
- PORTER K.V., 1971, Case studies in human relations , Macmillan, London
- POULSEN, K., 1973, "Supplement to Final Report of Seminar on Advances in Work Seminar", O.E.C.D., Paris, (3-6th April)
- PRENTICE, G., 1974, "Participation at Fry's", Personnel Management, May, 6, p.35-38
- PRESCOD, D., 1977, "Whistle while you work", Works Management, July, 30, 7, p.66-68
- PRIDEAUX, G., 1975, "Job design using autonomous groups", Work and People, Winter, 1, 2, p.8-13
- PRIDHAM, K.F., 1977, "Towards an adequate theory of stress resolution in work groups", Human Relations, September, 30, p.787-801
- 'PROSPERO', 1973, "Satisfying the workers", Director, March, 25, p.317
- PUGH, D.S., 1977, "Organising for People", London Business School Journal, Summer, p.26-28
- PYM, D., 1973, "Better working lives : a personal viewpoint", Occupational Psychology, 47, p.33-36
- QVALE, T.U., 1976, "A Norwegian strategy for Democratization of Industry", Human Relations, May, 29, p.453-469

- RADICE, G., 1979, The Industrial Democrats, Allen and Unwin, Hemel Hempstead
- RAMSEY, D., 1973, "Banishing the assembly line blues", European Community, August/September, p.14-17
- RAMSAY, H., 1977, "Cycles of control: worker participation in sociological and historical perspective", Sociology, September, 11, p.481-506
- RANSOM, G.M., 1974, "The Economics of Group Technology", (Proceedings of the 14th International Machine Tool Design and Research Conference), Macmillan, London
- RASCUS, J., 1974, "Why management is pushing 'job enrichment'" International Socialist Review, December, 35, p.22-25
- RAVEN, S., JACOBSON, P., and ASHFORD, M., 1975, "Work, it isn't just the money", Sunday Times Magazine, 27 April, p.14+
- RAYTON, D., 1972, "Shop Floor Democracy in Action: a personal account of the Coventry gang system", Industrial Common Ownership Movement, London, August
- REAM, B., 1977. "Job Restructuring", Industrial Society, July/August, p.9
- REDDIN, W.J., 1969, "Making the team work", Business Management (London), February, 99, p.26-28
- REID, D., 1975, "Involving the workforce", Management Today, February, p.74-77
- REVANS, R., 1969, "Alienation and resistance to change", Management Decision, September, 3, p.10-14
- REVANS, R.W., 1972, "New approaches to the 'new' worker", OECD Observer, December, p.13
- REYNOLDS, W.A. and SEN, P.S., 1975, "Organisational characteristics of group technology manufacturing systems", Production Engineer, October, p.551-554
- RHENMAN, E., 1968, "Industrial Democracy and Industrial Management: A critical essay on the possible meanings and implication of industrial democracy", Tavistock, London
- RICE, A.K., 1953, "Productivity and Social Organisation in an Indian Weaving Shed", Human Relations, 6, 4, November, p.297-329

- RICE, A.K., 1955, "Productivity and Social Organisation in an Indian Weaving Mill II", Human Relations, 8, 4, p.399-428
- RICE, A.K., 1955, "The Experimental Reorganisation of Non-Automatic Weaving in an Indian Mill", Human Relations, 8, 3, August, p.199-249
- RICE, A.K., 1969, "Individual group and intergroup processes", Human Relations, December, 22, p.565-584
- ROACH, J.M., 1977, "Why Volvo abolished the assembly line", Management Review, September, 66, p.48-52
- ROBERTS, D., 1972, "Job boredom and the squabbling pundits", Business Administration, September, p.47-48
- ROBERTSON, J. and MERCER, D., 1977, "Work design and the quality of working life", Manchester, Manchester Business School, Work Design Research Unit
- ROBERTSON, M.F., 1969, "The pursuit of happiness at work", Management Decision, Autumn, 3, p.47-49
- ROBEY, D. and BAKP, M.M., 1978, "Task redesign: individual moderating and novelty effects", Human Relations, August, 31, p.689-671
- ROCHE, W.J. and MACKINNON, N.L., 1970, "Motivating people with meaningful work", Harvard Business Review, May-June, p.97-110
- RODGER, A.W., 1970, "Studying work the modern way", Personnel Management, May, 2, p.36+
- ROHMERT, W., 1977, "Ergonomic principles of work structuring", Ergonomics, 20, 5, p.566
- ROLFE, J.M., 1971, "Multiple task performance: operator overload", Occupational Psychology, 45, p.125-132
- ROSE, E., 1976, "Work control in industrial society", Industrial Relations Journal (J.K.), Autumn, p.20
- ROSNER, M., KAVCIC, B., and TANNENBAUM, A.S., 1973, "Worker participation and influence in five countries", Industrial Relations, May, 12, 2, p.200-212
- ROSOW, J., 1972, "Now is the time for productivity bargaining", Harvard Business Review, January-February

- ROSOW, J.M., 1977, "The quality of working life and productivity: the double pay-off", Industrial Participation, Autumn, 562, p.9-12
- ROUSTANG, G., 1977, "Why study working conditions via job satisfaction? A plea for direct analysis", International Labour Review, May, 115, p.277-91
- RUBINSTEIN, H., 1976, "How work works", Daily Telegraph Magazine, 2 April, p.7
- RUEHL, G., 1974, "Work Structuring", Industrial Engineering, January
- RUNYON, J.H., 1974, "A 'psychological' contract of service", The Business Quarterly, Spring, p.51-58
- RUSH, H.M.F., 1969, "Behavioural science concepts and management application", New York, National Industrial Conference Board
- RYAN, A., "The work principle", New Society, 8 May, p.350-351
- SANBERG, T., 1977, "Work organisation problems, autonomous groups and socio-technical analysis: the Swedish case", Mimeo, August (Paper for the 2nd International Conference - Workers Control and Self Management), Paris
- SANBERG, T., (undated), "Autonomous groups and socio-technical analysis - an organisational perspective",
- SCHLESINGER, L.A. and WALTON, R.E., 1977, "Process of work restructuring and its impact on collective bargaining", Monthly Labor Review, April, 100, p.52-55
- SCHMITTHOF, C.M., 1974, "Tailoring the system to British needs", Times, 6 May, p.19
- SCHUMACHER, C., 1976/77, "Structuring work", Industrial Participation, Winter, 560, p.6-19
- SCOTT, D., 1970, "Scania's new assembly plant", Automotive Industry, 1 November, 143, p.38-40
- SEASHORE, S.E., 1975, "Defining and measuring the Quality of Working Life", in L. Davis and A. Cherns, 'The Quality of Working Life', P.105-118
- SELL, R.G., 1977, "Realities of job design", Ergonomics, 20, 5, p.554
- SHACKLETON, J.R., 1976, "Is workers' self-management the answer?", National Westminster Bank Quarterly Review, February, p.45-57

- SHAKER, W.H., 1972, "Group Dynamics", A.I.I.E. Technical Papers
- SHALINSKY, W., 1969, "Group composition as a factor in assembly effects", Human Relations, October, 22, p.457-464
- SHEPHERD, G.C., 1970, "Worker participation in coalmining", Co-partnership, October, 542, p.20-30
- SHEPPARD, et al., 1972, Where have all the Robots Gone? Worker Dissatisfaction in the 70s. Collier Macmillan
- SHIMMIN, S., 1974, 'After the Assembly Line', Personnel Management, August, p.35-37
- SHOREY, J., 1975, "The size of the work unit and strike incidence", Journal of Industrial Economics, March, 23, p.175-188
- SHUTT, H., (ed), (undated), 'Worker Participation in W. Germany, Sweden...' Economist Intelligence Unit
- SIBLEY, M., 1973, "Motivation and productivity research", Chrysler, U.K., Coventry
- SIDNEY, E., BROWN, M. and ARGYLE, M., 1973, Skills with People, Hutchinson, London
- SILLS, P.A., 1973, "The behavioural sciences: techniques of application", I.P.M., London
- SIMONDS, R.H. and ORIFE, J.N., 1975, 'Worker Behaviour versus Enrichment Theory', Administrative Science Quarterly 20 : p.606-612
- SIROTA, D., 1973, "Production and service personnel and job enrichment", Work Study, January, 22, 1, p.9-15
- SIROTA, D. and WOLFSON, A.D., 1973, "Pragmatic approach to peoples' problems", Harvard Business Review, 51, p.120-128
- SKARD, O., 1974, "Industrial Democrats in Norway", Journal of General Management, Summer, p.70-73
- SKINNER, W., 1971, "The anachronistic factory", Harvard Business Review, January-February, p.61-70

- SLACK, N.D. and WILD, R., 1975, "Research Notes: Production Flow Line and 'collective' working : a comparison", International Journal of Production Research, 13, 4, p.411-418
- SMITH, D.M., 1968, "Job Design - From Research to Application", The Journal of Industrial Engineering, October, xix, 10, p.477-482
- SMITH, G., 1974, "Participation in Action at Fry's", Industrial and Commercial Training, November, p.504
- SMITH, H.R., 1976, "Half-loaf of job enrichment", Personnel, 53, 2, p.24-51
- SMITH, P.I.S., 1973, "Job involvement and communications", Business Books, London
- SMYTHE, L.F. (undated), "Job Design in a Socio-Technical System", Manpower and Applied Psychology, 1, 2
- SOCIAL SCIENCE RESEARCH COUNCIL, 1975, "The Team System at Volvo", SSRC Newsletter, 27 April
- SOCIAL SCIENCE RESEARCH COUNCIL, 1978, Work Organisation Working Party Report, Management and Industrial Relations Committee, March
- SOFER, C., 1972, "Organisations in Theory and Practice", Heinemann Educational Books, London
- SORENSEN, J.R., 1973, "Group member traits, group process, and group performance", Human Relations, 26, p.639-655
- SPENCER, J., 1970, "Human factors in design and production", Industrial and Commercial Technique Ltd., London
- SPIEGELBERG, R., 1973, "A blow at the factory automaton", The Times, 5 March
- SPILMAN, R., 1969, "How to raise productivity", Management Today, September, p.83
- SPINK, P., 1975, "Some comments on the quality of working life", Journal of Occupational Psychology, 48, p.179-184
- SPOONER, P., 1973, "Group technology gives Platt a smoother run", Business Administration, April, p.33-35
- SPOONER, P., 1975, "Olivetti puts its own stamp on job enrichment", Business Administration, April, 25, p.28-29

- STEPHENS, C., and YOUNG, D., 1975, "Team development", Journal of European Training, 5, 1, p.36-45
- STEPHENS, L., 1962, "A case for job enlargement", New Society, 11 October
- STOKES, R., 1976, "Power to the people: a challenge for industry", Personnel Management, May, 8, p.14-17
- STRAUSS, G. and ROSENSTEIN, E., 1970, "Workers' Participation : A critical view", Industrial Relations, 9, p.197-214
- SUMMERS, D.B., 1977, "Understanding the process by which new employees enter work groups", Personnel Journal, August, 56, p.394-397+
- SUPERVISORY MANAGEMENT, 1977, "Group working in the car industry", Supervisory Management, Spring, 28, 1, p.38-39
- SUSMAN, G.I., 1970, "The impact of automation on work group autonomy and task specialisation", Human Relations, 23, p.567-577
- SUSMAN, G.I., 1970, "The concept of status congruence as a basis to predict task allocations in autonomous work groups", Administrative Science Quarterly, 15, p.164-175
- SUSMAN, G.I., 1972, "Automation, alienation and work group autonomy", Human Relations, 25, 2, p.171-181
- SUSMAN, G.I., 1975, "Technological Prerequisites for Delegation of Decision Making to Work Groups", in L. Davis and A. Cherns, The Quality of Working Life , p.242-257
- SUSMAN, G.I., 1976, Autonomy at Work: A Socio-technical Analysis of Participative Management , Adegor, New York
- SWART, J.C., 1973, "The worth of Humanistic Management", Business Horizons, June, 26, 3, p.41-50
- SWEDISH EMPLOYERS CONFEDERATION, 1975, "Job Reform in Sweden: Conclusions from 500 Shop Floor Projects", S.A.F., Sweden
- SWEDISH ENGINEERING EMPLOYERS CONFEDERATION, 1977, "Cooperation: lessons of practical experience from nine Swedish companies"
- SWORDS, N., 1975, "Job restructuring in the engineering industry: some general implications for the quality of working life", Paper presented at the Seminar on Technological Change, Lancaster Polytechnic, 8-10 July

- TAVEGGIA, T.G. and HEDLEY, R.A., 1976, "Discretion and work satisfaction: a study of British factory workers", Pacific Sociological Review, July, 19, 3, p.351-366
- TAYLOR, B. and LEWIS, P., 1973, "Informal learning, training and industrial relations", Journal of European Training, 2, 2, p.160-180
- TAYLOR, J.C., 1971, "Some effects of technology in organisational change", Human Relations, 24, 2, p.105-123
- TAYLOR, J.C., 1975, "The socio-technical approach to work system design", Personnel Review (U.K.), Summer, p.17
- TAYLOR, J.C., 1977, "Experiments in Work Design", Personnel Review, Summer, p.21
- TAYLOR, J.C., 1977, "Experiments in Work Design", Personnel Review, Autumn, p.21
- TAYLOR, J.C., 1977, "Job satisfaction and the quality of working life: a reassessment", Journal of Occupational Psychology, December, 50, p.243-252
- TAYLOR, J.C., 1978, "Empirical examination of the dimensions of quality of working life", Omega, 6, 2, p.153-160
- TAYLOR, L.K., 1970, "Motivation, management and men", Management in Action, February, p.39-41
- TAYLOR, L.K., 1972, Not for Bread Alone, Business Books, London
- TAYLOR, L.K., 1973, "Worker Participation in Sweden", Industrial and Commercial Training, January, 5, 1, p.6-15
- TAYLOR, L.K., 1973/74, Management of Change, "An organisational change through behavioural sciences", Industrial and Commercial Training, (1)
- TAYLOR, L.K., 1974, Management of Change, Industrial and Commercial Training, (2)
- TAYLOR, L.K., 1974, "Management of change: an example from local government", Industrial and Commercial Training, 6, January, p.16-23 (3)
- TAYLOR, L.K., 1974, "Management of change: an example from the electronics industry", Industrial and Commercial Training, February, 6, 2, p.80-83
- TAYLOR, L.K., 1976, "Creating an interest in work through participation", Royal Society of Arts Journal, June 124, p.380-390

- TAYLOR, L.K., 1976, A Fairer Slice of the Cake: The task ahead , Business Books, London
- TAYLOR, L.K., 1977, "Notes on job enrichment and motivation", Work Research Unit, Paper No. 9 , London
- TAYLOR, R., 1976, "The Volvo way of work", New Society, 15 April, p.125-126
- TAYLOR, R., 1976, "'To be in harmony, is precious'", Observer, 12 December, p.13
- TCHOBANIAN, R., 1975, 'Trade Unions and the Humanisation of work', International Labor Review, Vol. iii, No. 3, March
- TERISSE, H., 1975, "Two experiments with semi-autonomous groups at Telemecanique", Paris: Union des Industries Metallurgiques et Mineries, (Translated by WRU), Cahiers Techniques No. 7.
- THACKRAY, J., 1970, "TRW's double thrust", Management Today, November, p.118+
- THOMAS, A., 1973, "Volvo to set up assembly plant in America", The Times, 13 September
- THOMASON, G.F., 1971, Experiments in Participation , Institute of Personnel Management, London
- THORLEY, S., 1978, "Training supervisors and the cascade effect ... how it helped hospital hygiene", Personnel Management, May, 10 p.36-39
- THORSRUD, F., 1968, "Socio-technical approach to job design and organisational development", Management International Review, 8, 4-5, p.120-131
- THORSRUD, E. and EMERY, F.E., 1970, "Industrial Democracy in Norway", Industrial Relations, 9, p.187-196
- THORSRUD, E. SORENSEN, B.A. and GUSTAVSEN, B., 1976, "Socio-technical Approach to Industrial Democracy in Norway", in R. Dubin 'Handbook of Work Organisation and Society', Rand McNally, Chicago, p.421-464
- THE TIMES, 1966, "Lessons from management and Labour in Sweden", The Times, 20 September, p.11
- THE TIMES, 1967, "Planning for Life", Times Review of Industry and Technology, February, 5, p.100-101

- THE TIMES, 1972, "Changes unfulfilled hopes that can demoralise a workforce", The Times, 24 January, p.17
- THE TIMES, 1972, "Norsk Hydro Fertilizer Industrial Democracy", The Times, 30 October, p.20
- THE TIMES, 1972, "Job enrichment comes to the Civil Service", The Times, 23 October, p.20
- THE TIMES, 1973, "The industrial society: a special report", The Times, 5 April, p.13-15
- THE TIMES, 1973, "An escape from the machine", London, The Times, 24 April
- THE TIMES, 1973, "People at work: a special report", The Times, 4 June, p.24-25
- THE TIMES, 1973, "When the janitor's work is better than the assembly line", The Times, 25 June, p.18
- THE TIMES, 1973, "A Swedish experiment comes to Derbyshire", The Times, 16 July, p.16
- THE TIMES, 1974, "The philosophy of trust: one company's path towards employee involvement", The Times, 20 May, p.20
- THE TIMES, 1974, "Volvo plant brings in 'fresh era'", The Times, 5 June
- THE TIMES, 1974, Kalmar Plant, The Times, 30 September
- THE TIMES, 1974, "Hoping to improve the quality of working life", The Times, 7 October, p.16
- THE TIMES, 1975, "Jobs for the future: a special report", The Times, 24 April, p.i-iv
- THE TIMES, 1977, "Awards for effort: a special report", The Times, 8 February, p.14-15
- THE TIMES, 1977, Gyllenhammer visits London..., The Times, 27 September p.216 (Business Diary)
- THE TIMES, 1978, "Industry Society: a special report", The Times, 27 January, p.i-viii

TIMPERLEY, S.R., 1970, "A Study of a Self-Governing Work Group", Sociological Review, 18, p.259-281

TOWNSEND, C. and FRESHWATER, M., 1978, "Manpower mobility and the grouping of skills", Personnel Management, June, 10, p.36-39

TRADE UNION RESEARCH UNIT, 1977, "New Forms of Work Organisation and Trade Unions: New Issues for Collective Bargaining?", TURU, July, Ruskin College, Oxford

TRAFFORD, J., 1973, "The Assembly Line: Think before you demolish", The Financial Times, 23 November, - Executive World page

TREGOE, B.B., 1974, "Job enrichment - how to avoid pitfalls", Personnel Journal, 53, 6, p.445

TRIPARTITE STEERING GROUP ON JOB SATISFACTION, 1975, "Making Work More Satisfying", H.M.S.O.

TRIST, E.L., 1975, "Planning the First Steps Towards Quality of Working Life in a Developing Country", in L. Davis and A. Cherns, "The Quality of Working Life", p.78-87

TRIST, E.L., 1977, "Collaboration in work settings - personal perspective", Journal of Applied Behavioural Science, 13, 3, p.258-268

TRIST, E.L. and BAMFORTH, K.W., 1951, "Some Social and Psychological Consequences of the Longwall Method of Coal-Getting", Human Relations, 4, p.3-38

TRIST, E.L., HIGGIN, G.W., MURRAY, H., and POLLOCK, A.B., 1963, "Organisational Choice: Capabilities of Groups at the Coal Face Under Changing Technologies", Tavistock, London

TRIST, E.L., SUSMAN, G.E., and BROWN, G.R., 1977, "An experiment in Autonomous working in an American Underground Coal Mine", Human Relations, March, 30, 3, p.201-236

TROMP, P., 1971, "Man at work in an expanding world", Occupational Psychology, 45, p.173-181

TURNER, G., 1970, "What about the workers?", Listener, 5 February, 83, p.167-168

- VAILL, P.B., 1967, "Industrial Engineering and Socio-Technical Systems", The Journal of Industrial Engineering, September, XVIII, 9, p.530-538
- VAN BEEK, H.G., 1964, "The influence of assembly line organisation on output, quality and morale", Occupational Psychology, 38, p.161-172
- VAN DER WERFF, F., 1972, "Achievement through involvement", Industrial Engineer, 4, 6, p.821-824
- VANEK, J., 1975, Self-management, Penguin, Harmondsworth
- VAUGHAN, C., 1971, "At work in Coventry", Month, December, 4, p.173-175
- VOLVO, 1973, "Work groups : information on activities at Volvo by Pehr G. Gyllenhammer", Goteborg
- WADE, M., 1970, "Management in Overdrive", Business Management, May, p.26
- WAINWRIGHT, D., 1978, "Launching into participation: two exercises in participation at sea", Personnel Management, December, 10, p.28
- WALKER, A.H. and LORSCH, J.W., 1968, "Organisational choice: product vs function", Harvard Business Review, November/December, 46, p.129-138
- WALKER, C.R., 1971, "The problem of the repetitive job", Harvard Business Review, 28, 3, p.54-58
- WALKER, K.F., 1973, "Workers Participation in management - Problems, practice and prospect", International Institute for Labour Studies Bulletin
- WALLEY, B., 1978, "Production in the eighties", Management Today, June, p.94-97
- WALSH, W., 1969, "Enrichment in the Office", Personnel Management, 1, 6, p.42-44
- WALSH, W., 1976, "Group workforce utilization: obtaining production; providing satisfaction", Work Study, May, p.13-14
- WALTERS, R.W. and ASSOCIATES INC., 1975, Job enrichment for results: strategies for successful implementation, Addesley-Wesley Publishing Co. Inc., Reading, Mass.
- WALTON, R.E., 1972, "How to counter alienation in the plant: the roots of worker alienation go deep; nothing less than comprehensive redesign of the workplace can sever them.", Harvard Business Review, December, 50, p.70-81

- WALTON, R.E., 1974, "Improving quality of work life", Harvard Business Review, 52, 3, p.12
- WALTON, R.E., 1975, "Criteria for Quality of Working Life", in L. Davis and A. Cherns, The Quality of Working Life, p.91-104
- WALTON, R., 1975, "Group technology", Work Study, January, p.7-13
- WALTON, R.E., 1977, "Work innovation at Topeka: after six years", Journal of Applied Behavioural Science, July-September, 13, 3, p.422-433
- WARNER, M. (ed), 1973, Sociology of the Workplace, Allen and Unwin
- WARNER, M., 1976, "Further thoughts on experiments in industrial democracy and self-management", Human Relations, May, 29, p.401-410
- WARNER, M. and PECCEI, R., 1977, "Management Autonomy and Worker Participation in Multinationals", Personnel Review, Autumn, p.7
- WARR, P., 1976, Personal Goals and Work Design, Wiley, London and New York
- WARR, P., 1976, "Personnel Goals and Work Design", Personnel, 53, 6, p.54
- WARR, P.B. et al., 1973, "Better working lives: a symposium", Occupational Psychology, 47, 1/2. p.15
- WATSON, G., 1974, "Working with groups - 50 year retrospective", Social Policy, 5, 2, p.33
- WAYS, M., 1976, "American kind of worker participation", Fortune, October, 94, p.168-171+
- WEBB, C., 1973, "Lessons Leyland can learn from Fiat", The Times, 10 July
- WEDDERBURN, D., 1974, "Perspective on Sweden", Personnel Management, May, 6, 5, p.31-38
- WEDDERBURN, D., 1977, "Personal goals and work design - Warr, P.", Bulletin of the British Psychological Society, 30 May
- WEIL, R., (undated), "Alternative work organisation: improvements of Labour conditions and productivity in Western Europe", Paper prepared for project of IILS redevelopment in humanisation of work, In Press

- WEINBERG, A.S., 1974, "Work Experiments and Improving the Quality of Work Life in the United States", European Industrial Relations Review, October, p.2-5
- WEINBERG, A.S., 1975, "Six American Workers Assess Job Redesign at Saab-Scania", Monthly Labor Review, September, 98, 9, p.52-53
- WEINBERG, A.S., 1976, "Work attitudes and job design: A case study at Saab-Scania", Mimeo
- WEIR, M. (ed), 1976, Job Satisfaction: Challenge and Response in Modern Britain, Fontana
- WEISS, R., 1969, "Happiness is knowing they care", Guardian, 11 December, p.15
- WEISS, R., 1970, "The Seven Deadly Sins", Guardian, 8 January, p.13
- WEISS, R., 1970, "Psychology and industrial relations", Guardian, 22 January, p.17
- WELLIN, M., 1978, "How to manage by groups", Management Today, February, p.52-55
- WERTHER, W.B., 1975, "Beyond job enrichment to employment enrichment", Personnel Journal, August, 54, p.438-442
- WHITE, B.J., 1977, "The criteria for job satisfaction: is interesting work most important?", Monthly Labor Review, May, 100, p.30-35
- WHITE, G.C., 1976, "Improving the design of jobs", British Clothing Manufacturer, March
- WHITE, G. 1978, "Job Design and Individual Differences", Work Research Unit Occasional Paper No. 9
- WHITE, G.C., 1977, "Job design and individual differences", Ergonomics, 20, 5, p.589
- WHITE, G.C., 1978, "Improving jobs and work organisation", DE Gazette, 86, 3, p.303-304, H.M.S.O., London
- WHITE, G.C. and JESSUP, G., 1979, "Quality of Working Life: The Development of the United Kingdom Programme", W.R.U. Occasional Paper No. 14, February
- WHITING, B.J., 1974, "Job enrichment some future trends", Public Opinion Quarterly, 38, 3, p.432

- WHITSETT, D.A., 1974, "Job enrichment - whats' being sold and whats' being bought", Public Opinion Quarterly, 38, 3, p.433
- WIGHAM, E., 1974, "Need to understand workers' motives brings more psychologists into industry", Times, 18 December, p.21
- WILD, R., 1969, "Theories of job design", Work Study and Management Services, August, p.524
- WILD, R., 1970, "The Design of jobs", The Chartered Mechanical Engineer, June, p.255
- WILD, R., 1971, "A facelift for production", Management Today, May, p.49+
- WILD, R., 1973, "Group working in Mass Production", Part 1: Flow Line Work", The Production Engineer, December, p.457-461
- WILD, R., 1973, "Restructuring jobs around people: the nature and context of job restructuring in the engineering industries of Europe", Paper given at the IPM National Conference
- WILD, R., 1974, "Group working in Mass Production: Part 2", The Production Engineer, January, p.31-35
- WILD, R., 1974, "Group technology, cells and flow lines", Omega, 2, 2, p.269
- WILD, R., (undated), "Mass Production Work", The Administrative Staff College, Henley
- WILD, R., 1972, Mass Production Management , Wiley, London
- WILD, R., 1974, "Job restructuring and work organisation", Management Decision, 112, 3, p.117-126
- WILD, R., 1974, "Dimensions and stages of job design", Personnel Management, December, 6, p.32-34+
- WILD, R., 1975, Work Organisation , Wiley, London
- WILD, R., 1976, "Job Design Theory into Practice", Paper for IPM National Conference
- WILD, R., 1976, "Work Research Group, Administrative Staff College, Henley-on-Thames, Oxfordshire", Personnel Review, 5, 4, p.42-45

- WILD, R., 1975, "Summary of 13 experiments of worker participation and industrial democracy in Britain and Europe", Mimeo
- WILD, R. and BIRCHALL, D., 1973, "Means and ends in job restructuring", Personnel Review, Autumn, p.18
- WILD, R. and BIRCHALL, D., 1975, "Job structuring and work organisation", Occupational Psychology, 48, p.169-177
- WILKINSON, A., 1970, "A Survey of Some Western Europe Experiments in Motivation", The Institute of Work Study Practitioners, Enfield, Middlesex
- WILKINSON, A., 1971, "Motivation: some Western European Experiments", Work Study and Management Services, May, p.338
- WILKINSON, A., 1971, "Job enrichment in Europe", Work Study, (U.K.), August, p.25
- WILKINSON, A., 1972, "Motivating Europe's manpower", Management Today, January, p.62+
- WILLATT, N., 1969, "The Avant Garde at Pirelli", Management Today, September, p.70-75
- WILLATT, N., 1972, "Can Volvo kill the assembly line", The Financial Times, 3 October
- WILLATT, N., 1973, "Volvo versus Ford", Management Today, January
- WILLIAMS, R. (ed), 1973, "Tomorrow at work", BBC Publications, London
- WILLIAMSON, D.T.N., 1972, "The Anachronistic Factory", Proceedings of the Royal Society, p.13-160
- WILLSMORE, A.W., 1973, "Managing Modern Man", Pitman, London
- WILPERT, B. and NEGANDHI, A. (eds), 1978, "Work Organisation Research: European and American Perspectives", Kent State University Press, Ohio
- WILSHER, P., 1973, "Fiat: where they hope £50 million will buy happy workers", Sunday Times, 8 July, p.9
- WILSON, D., 1974, "The Trouble with Volvo's Valhalla", The Observer, 9 June

- WILSON, N.A.B., 1973, "On the quality of working life", DE, Manpower Paper No. 7, London, H.M.S.O.
- WINPISINGER, W.W., 1973, "Job enrichment: a union view", Monthly Labor Review, April, 96, p.54-56
- WITTINGLSOW, G., "Where line managers lose", Management Today, November, p.50-53
- WOOD, G., 1972, "How to manage control", Management Today, September, p.74+
- WOODCOCK, M. and FRANCIS, D., 1975, "The Junior Management Squeeze", Management Today, June, p.39-41
- WOODMAN, R.W. and SHERWOOD, J.J., 1977, "Comprehensive look at job design", Personnel Journal, August, 56, p.384-390+
- WORK IN AMERICA, 1972, Report of a Special Task Force to the Secretary of Health, Education and Welfare, MIT Press, Cambridge, U.S.A.
- WORK RESEARCH UNIT, 1974, Report No. 1, "Improving satisfaction at work by job redesign", DE, London, May 1974
- WORK RESEARCH UNIT, 1975, Report No. 2, "Work Restructuring projects and experiments in the U.K.", DE, London, August
- WORK RESEARCH UNIT, 1975, "Job satisfaction and job design", W.R.U. Paper No.1
- WORK RESEARCH UNIT, 1976, Report No. 5, Re-designing jobs in Scotland: A survey by Mary Weir for the Work Research Unit, DE, London, February
- WORK RESEARCH UNIT, 1976, Report No. 3, "Work restructuring projects and experiments in the U.S.A.", DE, London, June
- WORK RESEARCH UNIT, 1975, "Job Design and Work Organisation: Diagnosis and Measurement", WRU Paper No. 2
- WORK RESEARCH UNIT, 1975, "The Quality of Working Life: The Expanding International Sector", by M. Butteriss, Work Research Unit Paper No.5, October

WORK RESEARCH UNIT, 1975, "The job satisfaction research programme",
WRU Information Note No. 5, November

WORK RESEARCH UNIT, 1976, "General Strategy and Plan for September 1976 -
September 1977", DE, London, July

WORK RESEARCH UNIT, 1977, "Studies in job design. 1. South Eastern Electricity
Board, Brighton, Sussex. 2. Canadian Transport (Terminals) 42 Berth,
Tilbury", WRU, Department of Employment, December

WORK RESEARCH UNIT, 1977, "Studies in Job Design, 3. Hellerman Deutsch,
East Grinstead, Sussex, 4. Baxi Heating, Preston, Lancashire", WRU,
Department of Employment, December

WORK RESEARCH UNIT, 1978, "Work Research Unit Research Register 1978", DE, WRU,
London

WORK STUDY, 1974, Courtney Wines, "Work Study", October

WORKING TOGETHER CAMPAIGN, 1974, "Report of the First Industrial Relations Team
to Europe", Working Together Campaign, London

WORLD OF WORK REPORT, 1977, "Self managed teams at Butler Plant cut costs,
raise productivity", "World of Work Report", November, 2, 11, p.124-126

WRIGHT, H.B., 1977, "Morale and motivation tip the balance", "Director", July,
30, p.49-50

YORKS, L., 1976, "Radical approach to job enrichment", "Personnel Journal",
55, 9, p.473

YOSHIDA, K. and TORIHARA, M., 1977, "Redesigning jobs for a better quality of
Working life", "International Labor Review", September, 116, p.139-151

FOOTNOTES

1. See, for example, Nicolaus, 1972,
2. See, for example, Brown, 1967, p.37.
3. See, for example, Platt, 1976B, p.57.
4. See, for example, the work of Stansfield, 1967, who distinguishes between 'package' applications and 'permeation' of research findings - the latter being perhaps more influential in the long-term. These concepts will be examined in greater detail later.
5. See also Deutsch, 1971, p.569.
6. See, for instance, Dahrendorf, 1973, 1975; Douglas, 1970; Gouldner, 1970, 1975; Popper, 1974; Stein and Vidich, 1963; Horowitz, 1968; Mills, 1946, 1949; Nicolaus, 1969, 1972; Deutsch, 1971; Bramson, 1970; Becker and Horowitz, 1972; Merton and Lerner, 1951; Lynd, 1967; Harvey, 1972, and many many more.
7. See, for instance, Atkinson, 1972; Cherno, 1970; Rex, 1970; Nicolaus, 1969; Platt, 1976, p.208ff; Crawford and Biderman, 1970; Crawford and Perry, 1976; Becker and Horowitz, 1972.
8. An important exception to this is a thesis, recently completed, by G.E. Wittingslow, "Diffusion of the concept of Industrial Democracy in Britain", 1978.
9. A distinction made by Rose, 1978, p.5.
10. Extrapolation from mass media studies to the more specific diffusion of industrial sociology must be done with caution. Obviously, many processes operate equally in both areas - in the topics selected; the seeping down of owners' preferences, in the personnel who act as linkers, etc. However, there are some differences. The producers of knowledge are not captives to the mass media system - they have their own channels of communication open to them; university publishers, lectures, seminars, etc. But, as will be seen in the chapter on diffusion there are a number of influences on the academic product which mirror the influences on the product of the mass media.
11. See, Watson, 1977, p.126 on the personnel profession.
12. See, Havelock, 1969.

13. It should be noted that although using the word 'production', this does not mean that sociologists or social scientists produce knowledge: rather that they systematise, analyse and refine knowledge already held in the social world. The term 'production' is merely used to indicate the mediated nature of the output of the sociological community.
14. Perry (1974) found in 1972-3 that social science research funding in the U.K. was divided between various bodies as follows: university departments 36%; polytechnic department 7%, university research units 21%, research council units and other public sector organisations 3%, independent research organisations 5% central government division 7%, local government departments 11%, market research agencies 7%, professional associations/charities 3% - p.15.
15. See Arblaster, 1974, p.177; Havelock, 1969, p.3-15
16. See Whitley, 1970A; Ziman, 1968
17. Whitley, 1970B, p.174, looked at the organisation of 32 social science journals in the U.K.
18. The case of Velikovsky recorded by de Grazia (1961), illustrates this aspect.
19. For a discussion of this see Havelock, 1969, p.3-15.
20. In the arguments that follow it may be felt that too much weight is placed on the work of Arblaster, (1974). This weight is due to three reasons: firstly, there are surprisingly few publications which deal in detail with the activities of the academic community. This perhaps reflects a situation which Platt notes: "It is interesting that some of the most politically complex situations /in research/ seem to have arisen for those studying aspects of their own universities. The dedication of the institution to the pursuit of knowledge did not extend unequivocally to knowledge of itself." (p.45) Secondly, Arblaster explicitly puts forward and extends arguments which are implicit in others work (see, for instance, Platt, (1976A); Barry et al, 1974) and advances these arguments in relation to the U.K. rather than the U.S.A. (as in the work of C.W. Mills, 1963 etc. and de Grazia, 1961). Thirdly, because his arguments appear sound and informed much of my approach.
21. See the work of Cole and Cole, 1967.
22. See Merton, 1968

23. Of course, it may not do, given its relatively recent arrival on the academic scene. Also, the existence of an Invisible College may be difficult, if as Kuhn suggests, sociology is at a pre-paradigmatic stage. However, it could be argued that the 'new boy' position has meant a striving to become a respected and valued member of the academic community by various university sociology departments, ensuring an even greater propensity to accept the established norms and practices of the older academic departments.
24. Cherns and Perry point out "The rapid growth of the universities in the 1960s placed them at the financial mercy of government." in Crawford and Perry, 1976, p.68.
25. Ambjornsson and Elzinga in Dencik 1971 note "The essential question is not how scientific resources are allocated, but rather who (what class of people) does the allocating and according to what values." (p.148))
26. For a discussion of issues surrounding problem-centred research, see Bourdieu and Passeron, 1967 and Allen, 1963, p.23.
27. It is, perhaps, easy to overstate the incorporation of academics. Firstly, because elites in any sphere are seldom unitary and some conflict is to be expected. Secondly, membership of an elite at one moment in times does not guarantee continuing allegiance to, or compliance with, the norms of that elite. Similarly, some individuals may well try to maintain a measure of independence from an elite with which they may be associated.
28. Also: "Those scientists who enter into employment which requires the secrecy of their results have rendered themselves into epiphenomena of the scientific community. They take but they do not return anything and thereby they remove themselves from the scientific community." (Shils, 1968, p.473).
29. The traditional shunning of the world of practical affairs by academics ignores the reality of diffusing information in order to achieve greater academic/security or prestige. The 'publish or perish' syndrome ensures that ideas are constantly being presented in publicly and generally available journals. Once published, the academic like any other presenter of ideas, has no control over what parts are picked up, what neglected, etc. or who picks it up. - see Shipman, 1976; Klien, 1976.
30. It could of course be argued that academics use jargon in order to avoid being 'of use' and thus to shun the role of linker. However, it is as likely that jargon is created and used in order to increase the claims of a discipline to be a profession - see Johnson, 1972.

30A. university* which includes the scientific community and academic departments, research institutes, business schools, polytechnics, etc.

government which includes research centres, government departments and ministries, advisory services, research councils and government initiated independent bodies;

commercial which includes the mass media, management consultants, business schools, sociological entrepreneurs, publishers.

practice which includes academic consultants, applied social scientists, in-house social scientists; and,

independent which includes employers associations, trade associations and research councils, foundations, government initiated independent bodies.

(* there is some overlap in the categories).

(Havelock, 1967, Fig. 3-3 p.97)

31. 90% of the newspapers in the U.K. are owned by 8 people - Miliband, 1969.
32. For a discussion of these and other issues relating to the mass media see McQuail, 1969, Halloran, 1974, Marcuse, 1977.
33. See Glasgow University Media Group, 1976.
34. Findings of a similar nature have been noted by Havelock, 1969, p.6-40; Perrow, 1970, p.83.
35. For an example of this see Pettigrew's study and discussion of the O & M officer's tactics in control of information in the organisation, 1973, p.233.
36. On the importance of personal influence, see Katz and Lazarsfeld, 1955, and Katz, 1968.
37. However, it appears there are few social scientists employed as such in organisations, and the incidence of research does not alone tell much about diffusion.
38. The pejorative term 'laggards' neatly illustrates the taken-for-granted assumption that innovation is good, and it is rejection of innovations which requires explanation, not adoption. Yet resistance is easier than adoption. Innovations may require changes in attitudes and actions (Katz, 1968), in skills and values (Lippitt, 1965), and even in belief systems (Cherns, 1969). Indeed, "some new ideas are 'restructuring' innovations in that they change the structure of the social system itself." (Rogers, 1971, p.30). Of course, rejection means that the individual or organisation does not diffuse the practice, rather they create a 'shadow effect' where no stimulus for further action is transmitted to others. Similarly, it may negatively affect future attempts to innovate in that organisation.

39. For a good summary, see Mason, 1964.
40. Of course, innovation is not always voluntary - it may be forced on an organisation: by the parent company, by government legislation; social pressures; competitors.
41. e.g. see Harcmann and Husband, 1974, re: race relations.
42. Comparison with assembly line methods of production will be made throughout this section. While it was against the assumptions of production engineering that AWGs were first presented, it is in relation to assembly line methods and assumptions that the concept has received greatest attention in recent years.
43. See the collected references, Appendix C, and the chapter on Publications.
44. Group pressures on individual behaviour have been well documented e.g. Roy, 1952; Roethlisberger and Dickson, 1939; Sykes, 1967.
45. It is interesting to note in passing an often-neglected point about group working in coal-mining which Trist et al bring out - the need for a tradition of autonomy at work to exist in order for group working to succeed. The somewhat limiting nature of this aspect may account for its absence in subsequent publications.
46. See also Paterson, 1960, p.177, which brought this aspect to my attention.
47. An aim of management according to Baldamus, 1961, p.37.
48. Possibly not so much greater satisfaction than less dissatisfaction as Baldamus (1961), suggests.
49. Indeed, this aspect may have been exaggerated in Trist and Bamforth's work where no mention was made of the need for ventilation work, removing coal to pit shaft, repair of non-face areas etc.
50. A point made by Kelly, 1978, p.1086.
51. See Miller (1975, p.149), on Rice's work here.

52. Of course, attempts to change work organisation may well use parts of a number of theories and this may be accompanied by some confusion in the use of terms. Thus, some job enlargement schemes may be referred to as job enrichment, or job rotation as experiments in AWGs. This is a recurring problem in tracing the influence of any idea - accurately to distinguish it from other notions enjoying popularity. It is virtually impossible to isolate and identify the influences of the various ideas on any specific experiment and demarcation lines must, therefore, be both arbitrary and artificial.
53. It should be noted that it was unclear whether the Human Relations circulation figure referred to the U.K. alone, or included U.S. and U.K. circulation.
54. It seems likely that of the 912 references which had been traced, a similar proportion - 13% were likely to be irrelevant - so that for the years 1966-1978 inclusive 87% of the references (794) were in some way connected with work groups and the organisation of work.
55. A criticism made by Blackler and Brown, 1978, see also Cummings et al, 1977.
56. See, for instance, the discussions on diffusion of the work experiments in Emery and Thorsrud, 1976.
57. That trade unions had been mentioned in general terms in a publication was taken to imply that the topic would be borne in mind regarding the studies themselves even though the aspect might not specifically have been raised in each case.
58. It is worth noting that there were also only two mentions of the existence of a tradition of autonomy in working practices - an aspect which has been underplayed generally regarding AWGs.
59. See Daniel, 1969A; Goldthorpe et al, 1968; Daniel, 1969B.
60. The distinction was first made by Cummings et al, 1977.
61. "The most notable feature of the attempt to collect measures of success or failure was an almost universal absence of 'hard' measurement. While many companies were convinced that the experiments had led to improvements in productivity of some kind, there was scant evidence that anyone had set out from the beginning of the experiment to monitor the effects of these changes." Wilkinson, 1970.
62. For a discussion of the imperfections of using a simple 'gatekeeper' model see Murphy, 1976, p.136-139

63. See Child, 1969A.
64. At least in the short term - see Child, 1969A.
65. It is interesting that the respondent in the ITB with the most extensive research interests, mentioned a number of contacts, particularly with U.S. academics and consultants, which were also referred to by one of the 'informed amateurs' in a brewing company; and two organisations, the ATM and the OD Network were also mentioned by both. The coincidence increases when some of the prestigious linkers in the field also mentioned similar organisation and the same range of contacts, suggesting that there is a network of interested people right across the industrial sphere who do maintain contact; consultants, academics, ITB staff, managers. It would be interesting to discover the role which these 'initiated' play in diffusion. It is so far not clear the extent to which this network is based on individuals or their organisational affiliations. Certainly it was an organisational practice in this ITB but whether this is due to an apparently influential adviser's presence or was now standard practice in the Board was debateable.
66. Not only did awareness of the over-visiting of such companies make me reluctant to approach them but also at this stage the concern was with the intermediary organisations - the linkers rather than the consumers.
67. An illustration which serves to remind us that it is working practices which are often systematized into theory and such presentations often ignore the extent to which such practices exist.
68. One of these Boards had been involved in AWGs a number of years ago but no interest had been stimulated.
69. See the Brewer, October, 1977, p.380.
70. In a study of the Chemical and Allied Products industries Behrend and White in 1976 discovered that eight companies had introduced AWGs and another eight intended to experiment with AWGs out of a total of 76 companies from whom they received replies. No mention of the ITB as an information source was mentioned in this work.
71. One notable omission here is the electronic media. Approaches were made to both ITV and BBC (both radio and TV) but it proved impossible to find out where or to what extent the topic of AWGs had been covered.
72. Yet another, apparently unthinking, move from social science to behavioural science.
73. Ford and Appleby found nearly half the advertisements for social scientists were placed by management consultants. (undated, p.3)

74. Lists detailing the use made of consultants and which companies were used by government, are issued periodically - see for instance "Management Consultants in Government", Management Services, 1977, February, 32, 1, p.49-51.
75. See, for instance, an article "The dons who get their hands dirty", in which the assistance available from Manchester Business School was detailed as was some of their previous experience. (Dixon, 1972, p,17).
76. See also, Gill, 1979.
77. Ford and Appleby, found "The most common activities are conducting attitude surveys and teaching managers social science "(Undated, p.5), but this may well have changed in recent years.
78. In fact, the time lag in theoretical work in AWGs has been attributed by one (academic) observer in the field to "the slowness of Tavi people putting what they had found into any readable state, for instance, "Organisational Choice" which came out 15 years after the work was done. Of course there were the odd articles in Human Relations but....".
79. Information from Tavistock Annual Reports.
80. For further information on the WRU, see Butteriss, 1975; Jessup, 1978; White and Jessup, 1979, and numerous other WRU papers.
81. There are of course parallels here with the ITBs and their middle position between government and industry.
- 81A. See H.B. Rose, 1970, R. Stewart 1967, and J. Child, 1969A.
82. This finding supports Copp et al's (1958, p,151) where at the 'awareness' stage of adoption, publications, etc. are important while at the 'interest' stage, greater reliance is placed on face-to-face contact.
83. Competition in the brewing industry is also limited by joint ventures as in the case of the Harp Consortium disbanded in 1979, in which Guinness, Courage and Scottish & Newcastle got together to produce and market Harp Lager.

84. The companies were stratified by size for two reasons.
 1. Because there were such obvious differences in company size within the industry, and
 2. because size of company is likely to affect a number of factors potentially relevant to diffusion such as : graduate recruitment, management training, internal information resources, employment of social scientists. It is, after all, with large companies that use of social science has been associated - see Cherns, 1979, p.276; Klein, 1976. And size has been found to be salient in adopting technical innovations (Mansfield, 1963, p.309).
85. It was finally decided to use the term behavioural sciences rather than social sciences as this term seemed less likely to provoke antagonism which had been encountered, for instance, in contact with other organisations serving the industry. But the letter was sent on university notepaper which clearly gave the name of the department "Sociology and Social Administration".
86. An informed observer commented that in these training centres the same courses tended to be run year after year. This in turn suggests that new ideas may not be readily accommodated.
87. One academic consultant pointed out that while AWGs reduce the role of supervisors, ACL bolsters the position of supervisors, suggesting an antithesis between the two, one countering the other.
88. The Edinburgh Group also found this: "Today's behavioural science projects are aimed predominantly at the manager". (1971, p.29).
89. Management education is undertaken only up to a certain level, above which are the key people - in Brewing, Marketing, Distribution - positions to which access is severely restricted, possibly to family members, was suggested by one observer in describing the "Brewery-baron" system.
90. Exemption from payment of levy can be obtained by "companies which satisfied their own training needs according to general criteria laid down by individual boards and approved by the MSC". /Central Office of Information, 1978, p.47.
91. A large company mentioned that the FDTITB was very keen on the Outward-Bound type of management training. If this is the case, it helps explain the popularity of such courses as well as pointing to a substantial impact of the ITB.
92. Aguilar, for instance, found "a general lack of interest in the possibility of picking up information for other divisions in the normal course of activity...." (1967, p.113).

93. A point which may be relevant in other instances such as strikes.
94. But the emphasis on experience and on the practical is not confined to brewing. McGivering et al, point to "the still widespread tendency of many senior managers to make a virtue of experience per se, rather than to respect an appropriate combination of formal training and experience". (1960, p.140)
95. The importance of geographic location was found in France regarding innovations - see Piotet, 1975.
96. For a discussion of these aspects see Perrow, 1970; Pettigrew, 1973, and Watson, 1977, p.187.
97. The Edinburgh Group found in their study of the chemical industry "that personnel staff were usually involved in the initiation of behavioural science work". (1971, p.30).
98. It is worth noting that the Edinburgh Group report "The origin of behavioural science applications was usually the result of commitment by some influential person to the new approach." (p.30)
- influential being the operative word here yet also problematic in identifying.
99. There are severe limitations on the data regarding which information sources are used. It is a hypothetical situation and assumes the 'information' environment remains static. Where opinion of the social sciences is not overly high, it can hardly be expected that information sources will trip off the tongue. Finally, previous questions related to the memberships of institutions and to the relationship of the operating companies to their HQs and this may have affected the responses.
100. The Edinburgh Group, for instance, report on similar implementations which they classify as behavioural science, and give their definition of the behavioural sciences: "in an organisational context, are those disciplines which attempt scientifically to study and predict human behaviour in a social setting. They include psychology, sociology and social anthropology and some of their offshoots, such as social and organisational psychology and industrial sociology." (1971, p.28)
101. AWGs may be a rather grand name for what was a group participation scheme. The project died in its second year - (according to a researcher who has been looking at it), the company being apparently overkeen to try out its own ideas and failing to employ a third party such as a sociologist. That the project was not successful is not advertised but this may be known within the industry. The company recently reports - in 1979 "We have spent a lot of time improving our communications systems so that the changes in company strategy to meet the demands of the market place can be understood and accepted by everyone." (cited by TUSIU).

102. Since conducting the interviews, in correspondence with a researcher in Scotland it was mentioned that two brewing companies, one in Scotland and one in Yorkshire, were undertaking work similar to that tried earlier in Scotland. One of those breweries had been visited by me and no mention of an experiment by the Personnel Director had been made, whether the work was already planned at that time is an interesting question.
103. As Aguilar noted "An examination of sources used as a function of company size showed a tendency for managers in large companies to rely much more heavily on internal sources than did managers of smaller companies. This finding highlighted the potential advantage accruing to a manager in a large company having '10,000 people on the end of the 'phone who can and will provide information and answers'." (1967, p.96).
104. See also Keegan, 1968, p.11.
105. Differences between industries in adopting technical innovations have been identified in the U.S.A. - see Mansfield, 1961.
106. For an idea of how courses can be presented in varying ways, see Deem's (1979) work.

BIBLIOGRAPHY

- ABBOTT, J., 1969, Employment of Sociology and Anthropology Graduates 1966-67, A Report of Research Surveys Conducted for the British Sociological Association, Sociology Teachers' Section
- ABERCROMBIE, N. et al., 1980, The Dominant Ideology Thesis, Allen and Unwin, London
- ABRAMS, P., 1977, Notes on the difficulty of studying the State, Staff/Graduate Seminar Paper, 9 November, University of Durham
- ADDISON, H.J., 1972, 'Books and Bucks: The Economics of College Textbook Publishing', College Composition and Communication, 23, p.287-291,
- ADENEY, M., 1976, "The unions have the brawn, but where are the brains?", The Guardian, September, Saturday 11, p.6
- ADLER, L.S., 1975, "Trade Associations and the services they provide", Aslib Proceedings, November-December, 27, p.11-12 and p.440-446
- AGUILAR, F.J., 1967, Scanning the Business Environment, Macmillan, New York
- AIKEN, M. and HAGE, J., 1971, "The Organic Organisation and Innovation", Sociology, 5, p.63-82
- ALEXANDER, K.J.W., 1975, "Towards better ways of working", The Scotsman, 24 October, p.12
- ALLEN, V.L., 1961, "Management and the Universities," The Listener, 13 July, p.51-52
- ALLEN, V.L., 1963, "A Failure of Method: the inadequacy of present research as a basis for understanding the nature of management", Technology, January, p.14-23
- ALLEN, V.L., 1975, Social Analysis, Longman, Harlow, Essex
- ALLOTT, A.M., 1977, "Business information: an overview of current practice", The Library Association Centenary Conference: proceedings; London, Library Association p.22-26
- AMBJÖRNSEN, R. and ELZINGA, A., 1971, "The Repressive Function of Science in Advanced Capitalist Societies", in L. Dencik (ed), Scientific Research and Politics, Studentlitteratur, Lund, Sweden

- ANDERSON, I.G. (ed), 1977, "Councils, Committees and Boards", CBD Research Ltd., Kent
- ANGELL, R.C., 1968, "The Ethical Problems of Applied Sociology," in P.F. Lazarsfeld et al (eds), The Uses of Sociology, Weidenfeld and Nicolson, London
- ANTHONY, P.D., 1977, The Ideology of Work , Tavistock, London
- APPLEBY, B., 1972, "Applied Social Scientists in Industry: Expectations and Dimensions of their Role", in C.U.S.S.R., 'Papers on Social Science Utilisation' Monograph', October
- ARBLASTER, A., 1974, Academic Freedom , Penguin, Harmondsworth
- ARENSBERG, C.M. et al. (eds), 1957, Research in Industrial Human Relations, Harper, New York
- ARENSBERG, C.M. and TOOTELL, G., 1957, Plant Sociology: Real Discoveries and New Problems," in Komarovsky, M. (ed), Common Frontiers of the Social Sciences, Free Press, Glencoe, Illinois
- ARIS, S., 1971, "The Games Managers Play", The Sunday Times, 7 February
- ARMSTRONG, A., 1973A, 'Information please! Extra Specialists', New Library World, January, 74, 871, p.12-13
- ARMSTRONG, A., 1973B, "Information centres and their uses to business", New Library World, September, 74 (879), p.206-209
- ARMSTRONG, J. and LLOYD, D.H., 1975, "A Better Place to Work", University of Reading, Research Study No. 18
- ARMSTRONG, K., 1974/5, "Libraries and politics - a personal view by an industrial Librarian", Librarians for Social Change, Winter, 7, p.7-8 and p.12
- ARMYTAGE, W.H.G., 1965, The Rise of the Technocrats , RKP, London
- ARONOFF, C., 1975, "Rise of the behavioural perspective in selected management textbooks: an empirical investigation through content analysis", Academy of Management Journal, December, p.753-768
- ARRAM, D., 1961, A Critical Examination of the Assumptions in Some Post-War British Industrial Sociology, University of Leeds, Ph.D. thesis, June

- ASLIB PROCEEDINGS, 1975, "The availability and use of business information":
Proceedings of a two-day conference arranged with the cooperation of
the Aslib Economic and Business Information Group and held at the
Geological Society of London on 23-24 July 1975. Aslib Proceedings,
November-December, 27, (11-12), p.425-479
- ATKINSON, D., 1972, "The Politics of Academic Freedom", in T. Pateman (ed),
Countercourse, Penguin, Harmondsworth
- AUSTRIN, T. and BEYNON, H., 1980, "Global Outpost: The Working Class Experience
of Big Business in the North East of England 1964-1979", University of
Durham, Department of Sociology, Durham
- AYOUB, S.T., 1971, "Management Advisory Services for Small Firms", Ph.D. thesis,
University of Manchester Institute of Science and Technology, April
- BACKHOUSE, R., 1977, "Library services to trade unions - ignored or forgotten?",
Assistant Librarian, December, 70, 12, p.182-185
- BAILEY, F.G., 1970, "'Action' Research and 'Thought' Research", Paper given to
SSRC York Conference, Derwent College, July, (mimeo)
- BAKER, C., 1973, "Business School and Company Interface", Management Education
and Development, December, p.139-146
- BAKER, H.C., 1957, "Human Factors: a survey of management opinion", Cutlery
Research Council, Sheffield (Report no. CRO/NF/57/1)
- BAKER, H.C., 1959, Absorbing Technical Ideas in industry, Cutlery Research
Council, Sheffield
- BAKER, H.C. and MITCHELL, S., (undated), "Some factors affecting technical
progress in the cutlery industry", Mimeo
- BAKEWELL, K.G.B., (ed), 1968, "Library and information services for management",
(Papers presented at a short course held at the School of Librarianship
and information work at Liverpool College of Commerce in December 1967),
London, Bingley
- BALDAMUS, W., 1961, Efficiency and Effort, Tavistock, London
- BALDAMUS, W., 1966-73, "Discussion papers from University of Birmingham
Series E, Social Science Methodology No. 1, 2, (alias 'The Role of
Discoveries in Social Science')", 5, 15, 16, 18, 13, 24

- BALL, R.J., 1977, "Britain's Economy: Implications for Management Education", London Business School Journal, Summer, p.2-7 and p.24
- BANKS, J.A., 1964, "The Structure of Industrial Enterprise", in P. Halmos (ed), "The Development of Industrial Societies", Sociological Review Monograph, 8, Keele p.43-61
- BARITZ, L., 1960, The Servants of Power, Greenwood, Illinois
- BARKIN, S., 1950, "A Trade Unionist Appraises Management Personnel Philosophy", Harvard Business Review, 28, (5), p.59-64
- BARNES, S.B., 1971, "Making Out in Industrial Research", Science Studies, 1, 2, p.157-175
- BARNETT, H.G., 1953, Innovation: The Basis of Cultural Change, McGraw Hill, New York
- BARRY, B. et al, 1974, "A Survey of Research Funding in U.K. Management and Industrial Relations Centres", SSRC, London
- BARRY, B. SHACKLETON, V. and LANSLIEY, P., 1975, "Some aspects of the research process in the field of management and industrial relations", Report by the Ashridge Management Research Unit, Commissioned by SSRC
- MARTIN-BATES, J.P., 1970, "Training for industry and Management", Royal Society of Arts Journal, August, 118, p.553-565
- BAUMGARTEL, H., 1953, The Survey Feedback Experiment, Mimeo, Berkeley, California, 31 August
- BAUMGARTEL, H., et al., 1976/77, "Management Education, Company Climate and Innovation", Journal of General Management, Winter, p.17-26
- BAYER, A.E. and FOLGER, J., 1966, "Some correlates of a citation measure of productivity in Science", Sociology of Education, Fall, 39, 4, p.381-390
- BEAL, G.M., ROGERS, E.M. and BOHLEN, J.M., 1957, "Validity of the concept of stages in the adoption process", Rural Sociology, June, 22, p.166-168
- BECKER, H.S., 1970, "Whose Side Are We On?", in Reynolds, L.T., and Reynolds, J.M., The Sociology of Sociology, David McKay Co. Inc., New York

- BECKER, J.S. and POROWITZ, I.L., 1972, "Radical Politics and Sociological Research: Observations on Methodology and Ideology", American Journal of Sociology, Vol. 18, July, p.48-66
- BECKER, S.W. and WHISLER, T.L., 1967, "The innovative organisation: a selective view of current theory and research", Journal of Business, October, 40, p.462-534
- BEETHAM, D., 1974, Max Weber and the Theory of Modern Politics, Allen and Unwin, London
- BELL, C. and NEWBY, H., 1977, Doing Sociological Research, Allen and Unwin, London
- BEND, E. and VOGELFANGER, M., 1964, "A New Look at Mills' Critique", in Rosenberg, B. et al. (eds), Mass Society in Crisis, Macmillan, New York
- BENDIX, R., 1956, Work and Authority in Industry, Harper and Row, New York
- BENDIX, R., 1959, "Industrialisation, Ideologies and Social Structure", American Sociological Review, October, 24, 5, p.613-623
- BENDIX, R., 1966, Max Weber: An Intellectual Portrait, Methuen, London, University Paperback
- BENNETT, R., 1977, "The anti-social scientist", Management Today, July, p.17-20
- BENNETT, R. and DAWSON, R.O. and MAULE, P.G., 1972, "Putting research to work", Personnel Management, March, 4, p.23-25
- BENNIS, W.G., 1966, Changing Organisations, McGraw Hill, New York
- BERGER, P.L. and LUCKMANN, T., 1967, The Social Construction of Reality, Allen Lane, Penguin Press, London
- BERNARD, J., 1967, in Horowitz, I.L. (ed), The Rise and Fall of Project Camelot, M.I.T. Press, Cambridge, Mass.
- BERNSTEIN, H., 1972, "The Institute, the Ministry and the State Corporation", in T. Pateman (ed), Countercourse, Penguin, Harmondsworth
- BERNSTEIN, L., 1969, "Experts for the asking", Business Management, May, p.18
- BEST, R.D., 1953, "Free expression in a Birmingham factory", The Manager, August, p.460-462, p.464

- BEYNON, H., 1973, Working for Ford, Allen Lane/Penguin, London
- BIDERMAN, A.D. and CRAWFORD, E.T., 1968, "The Political Economics of Social Research: the case of sociology", Bureau of Social Science Research Inc., Washington, D.C., March
- BLACKBURN, R., 1969, "A Brief Guide to Bourgeois Ideology" in Cockburn, A. and Blackburn, R. (eds), Student Power, Penguin, Harmondsworth
- BLACKBURN, R. (ed), 1972, Ideology in Social Science, Fontana
- BLACKLER, F.H.M. and BROWN, C.A., 1978, Job Redesign and management control: Studies in British Leyland and Volvo, Saxon House, Farnborough, Hants
- BLACKLER, F.H.M. and BROWN, C.A., 1980, Whatever happened to Shell's New Philosophy of Management, Saxon House, Farnborough
- BLAGDEN, J.F., 1970, "Management information services", Aslib Proceedings, October, 22, (10), p.492-496
- BLAGDEN, J., 1973, "Information services to management consultants", Aslib Proceedings, November, 25 (11), p.459-464
- BLAGDEN, J., 1978, "Special Libraries and Corporate Performance: The Illusive Connection", M.A. Thesis, School of Library Information Studies, University College, London
- BLANK, S., 1973, "Industry and Government in Britain: The Federation of British Industries in Politics, 1945-65", Saxon House/Lexington Books, Farnborough, Hants
- BLUESTONE, I., 1976, "Worker Involvement in Managing the Job", World of Work Report, October, 1, 8, p.1 and p.8-9
- BLUESTONE, I., 1977, "Towards New Freedom at the Workplace", Employee Relations Law Journal, Winter, 2, 3, p.252-261
- BLUMER, H., 1967, "Threats from Agency-Determined Research," in Horowitz, I.L. (ed), The Rise and Fall of Project Camelot, M.I.T. Press, Cambridge, Mass
- BOALT, G., 1965, The Sociology of Research Work, Acta Sociologica, 8, 4, p.257-284

- BOGUSLAW, R., 1967, Ethics and the Social Scientist, in Horowitz, I.L. (ed), The Rise and Fall of Project Camelot, MIT Press, Cambridge, Mass
- BOOKSELLER, 1967, "Coming under a Training Board", Bookseller, 19 August, p.140-158
- BOTTOMLEY, W.J., 1974, "Professional Social Science: Responsible as well as Respectable", Australian Journal of Social Issues, Vol. 9, No.2, p.100-107
- BOURDIEU, P. and PASSERON, J., 1967, "Sociology and Philosophy in France since 1945: Death and Resurrection of a Philosophy without subject", Social Research, 34, p.162-212
- BOWERS, R.V., 1968, The Military Establishment in P.F. Lazarsfeld et al (eds), The Uses of Sociology, Weidenfeld and Nicolson, London
- BRAKE, T., 1978, "Work Organisation: A Bibliography 1970-1977", Appendix 6 (Compiled for the SSRC: and incorporated in: "Research Needs in Work Organisation", Working Party to MIRC of SSRC)
- BRAMSON, L., 1970, Reflections on the Social and Political Responsibility of Sociologists, S.R. Monograph No. 16, 'The Sociology of Sociology', September, University of Keele, p.37-52
- BRAVERMAN, H., 1974, "Labor and Monopoly Capital", Monthly Review Press, New York
- BRESSLER, M., 1968, "Sociology and Collegiate General Education", in P.F. Lazarsfeld et al., 'The Uses of Sociology', Weidenfeld and Nicolson, London
- BREWER, THE, 1977, "M.E.M.O. - Looking at training for your total production system," The Brewer, October, 63, 756, p.380-382
- BRIDGE, R.G. et al., 1977, "Interviewing Changes Attitudes - Sometimes ", P.O.Q., Vol. 41, No. 1, Spring
- BRIGHTON LABOUR PROCESS GROUP, 1977, "The Capitalist Labour Process", Capital and Class, Spring, 1, p.3-26
- BRINTON, J.E. and MCKOWN, L.N., 1961, "Effects of Newspaper Reading on Knowledge and Attitude", Journalism Quarterly, Vol. 38, p.187-195
- BRITISH ASSOCIATION FOR COMMERCIAL AND INDUSTRIAL EDUCATION, 1979, "Industrial Training Boards Progress Report Eight", BACTE, London

- BRITISH INSTITUTE OF MANAGEMENT, 1969, "What Managers Read", BIM Occupational paper (New Series), OPN 3, BIM, London
- BRITISH INSTITUTE OF MANAGEMENT, 1974, "A Basic Library of Management", BIM, London
- THE BRITISH PSYCHOLOGICAL SOCIETY (Division of Occupational Psychology), 1978, Register of Members, B.P.S.
- BRITISH SOCIOLOGICAL ASSOCIATION, 1973, "Statement of Ethical Principles and their application to sociological practice", April, B.S.A.
- BRITTAIN, J.M., 1970, "Information and its users: a review with special reference to the social sciences", Bath University Press
- BROADUS, R.N., 1952, "An Analysis of Literature Cited in the American Sociological Review," American Sociological Review, 17, 3, p.355-357
- BROADUS, R.N., 1967, "A Citation Study for Sociology", The American Sociologist, February, p.19-20
- BROOKES, W.L., McCORMACK, L.F. and SEABURY, J.D., 1978, "Annotated Index to Expectations Approach Working Papers and other Literature", Expectations Approach Working Paper Series, Working Paper No. 1, Ed. 2, DUBS
- BROOKS, T.R., 1972, "Job Satisfaction: An Elusive Goal", AFL-CIO American Federationist, October, p.1-7
- BROWN, C. et al (eds), 1976, The Access Casebook, Teknisk Högskola i Stockholm AB
- BROWN, J., 1973, "Business Schools - luxury or necessity?", The Young Accountant, January, p.10
- BROWN, J., 1978, "Implications for Trade Unions of the trend toward New Forms of Work Organisation", AUEW (Engineering Section) - Research Paper
- BROWN, J.S. and GILMARTIN, B.G., 1969, Sociology Today: Lacunae, Emphases and Surfeits, The American Sociologist, November, 4, 4, p.283-291
- BROWN, L.A., 1969, "Diffusion of Innovation", Economic Development and Cultural Change, January, 17, 2
- BROWN, R.K., 1967, "Research and Consultancy in Industrial Enterprises ", Sociology, 1. p.33-60

- BROWN, R.K., 1969, Towards a Definition of Industrial Sociology, Staff/Graduate Seminar Paper, University of Durham, 13 November
- BROWN, R., 1977, "J. Platt: Reality of Social Research - Review Symposium", Sociology, Vol. 11, No. 1, January
- BRUYN, S.T., 1966, The Human Perspective in Sociology: the methodology of participant observation, Prentice Hall, Englewood Cliffs, New Jersey
- BRYANT, C.G.A., 1976, Sociology in Action, Allen and Unwin, London
- BRYSON, L. et al. (eds), 1954, Symbols and Values: An Initial Study, Harper Row, New York,
- BULL, G., 1967, "Professor Houlden's Business Egg", Director, October, 20, p.108-109
- BULLOCK, J.F. (ed), 1979, "The Handbook of Degree and Advanced Courses in Institutes/Colleges of Higher Education, Polytechnic Departments of Education, University Departments of Education", NATFHE, London
- BULMER, M. (ed), 1975, Working-Class Images of Society, Routledge & Kegan Paul, London
- BULMER, M. (ed), 1978, Mining and Social Change, Croom Helm, London
- BURNS, R.O., 1977, "Innovation - management connection", Management International Review, 17, 1, p.120
- BURNS, T., 1958, "Research and Development in the Firm", Journal of the British Institute of Management, January, 1, p.182-190
- BURNS, T. and STALKER, G.M., 1961, The Management of Innovation, Tavistock, London
- BURSK, E.C., 1957, "New Dimensions in Top Executive Reading", Harvard Business Review, 35, September-October, p.93-112
- BUSINESS GRADUATES ASSOCIATION LTD., 1971, "British Industry's Attitudes to Business Graduates and Business Schools", B.G.A., London
- BUSINESS SURVEYS LTD., 1976-1979, Research Index, Business Services Ltd., Wallington, Surrey

- BUSINESS WEEK, 1966, "Mentors for Britain's flagging management", Business Week, 15 October, p.190-191
- BUTTERISS, M., 1975, "The Work Research Unit", Management Review and Digest, 2, 4, p.4-5
- CALDER, N., 1959, What They Read and Why, D.S.I.R. - Problems of Progress in Industry No. 4, H.M.S.O., London
- CAMPBELL, J.P. et al., 1970, Managerial Behaviour, Performance, and Effectiveness, McGraw Hill, New York
- CAMPBELL, M.J., 1975A, Manual of Business Library Practice, Bingley and Hamden, London
- CAMPBELL, M.J., 1975B, "Periodicals, newspapers and other ephemera", in M.J. Campbell Manual of Business Library Practice, Bingley and Hamden, London
- CANNON, I.C., 1967, "Ideology and Occupational Community: A Study of Compositors", Sociology, 1, 2, May, p.165-185
- CARSON, D., 1968, "Management education in the United Kingdom", Business Quarterly, Winter, 33, p.27-33
- CARTER, C.F. and WILLIAMS, B.R., 1957, Industry and Technical Progress, O.U.P., London
- CARTER, M.P., 1968, Report on a Survey of Sociological Research in Britain, Sociological Review, Vol. 16, No. 1, March
- CARTER, R.E. Jnr., 1952, "Newspaper 'Gatekeepers' and the Sources of News", Public Opinion Quarterly, Vol. 22, p.133-144
- CASTLES, F.G. et al. (eds), 1971, Decisions, organisations and society, Penguin, Harmondsworth
- CASWILL, C.J., 1978 "Problems and Issues in Research on Quality of Life", in B. Wilpert and A. Negandis "Work Organisation Research", Kent State University Press, Ohio
- CENTRAL OFFICE OF INFORMATION, 1978, Manpower and Employment in Britain: Industrial Training, H.M.S.O.
- CENTRE FOR THE UTILIZATION OF SOCIAL SCIENCE RESEARCH, 1972, Papers on Social Science Utilization, Loughborough University, October

- CHADWICK-JONES, J.K., 1969, Automation and Behaviour, Wiley, London
- CHALLIS, L.M.S. (undated), "The Social Science Practitioner and the Collaborate Model", CUSSR Working Paper, University of Loughborough
- CHANDLER, A.D., 1977, The Visible Hand: The Managerial Revolution in American Business, Belknap Press of Harvard University Press, Cambridge, Mass
- CHENEY, A.G., 1971, "Information dissemination in a research establishment", Information Scientist, June, 5, (2), p.66-76
- CHERNS, A.B., 1963A, "Organised Social Science Research in Great Britain", Social Science Information, March, p.66-81, Part I, The Structure
- CHERNS, A.B., 1963B, "Organised Social Science Research in Great Britain", Social Science Information, July, p.93-112, Part II
- CHERNS, A.B., 1966, "Management Research: Retrospect and Prospect", 14 June, Mimeo
- CHERNS, A.B., 1967, "The problems facing the Social Science Research Council in its first year of existence", Social Science Information, vi, 1 February, p.199-205
- CHERNS, A.B., 1968, "The Use of the Social Sciences", Human Relations, 21, 4, p.313-327
- CHERNS, A.B., 1969, "Social Science and its Diffusion", Human Relations, 22, 3, p.209-218
- CHERNS, A.B., 1970A, "Industry, technology, social change and the Social Sciences", Technology and Society, May, 6, 1, p.17-19
- CHERNS, A.B., 1970B, Social Science and Policy, Sociological Review Monograph No. 16, The Sociology of Sociology, September, p.53-75, University of Keele
- CHERNS, A.B., 1970C, "Relations between Research Institutions and Users of Research", International Social Science Journal, xxii, 2
- CHERNS, A.B., 1972A, "Personnel management and the social sciences", Personnel Review (U.K.), Spring, No. 4
- CHERNS, A.B., 1972B, "Can Behavioural Scientists Help Managers Improve their Organisations?", Organisational Dynamics, Winter, p.51-67

- CHERNS, A.B., 1976, "Negotiating the Contract", in Brown, G. et al. (eds), The Access Textbook, Teknisk Hogskolitteratur: Stockholm AB,
- CHERNS, A.B., 1979, Using the Social Sciences , RKP, London
- CHERNS, A.B., and DAVIS, L.E., 1975A, "Goal for Enhancing the Quality of Working Life", in L.E. Davis and A.B. Cherno, The Quality of Working Life , Vol. I, Free Press, New York and London
- CHERNS, A.B., and DAVIS, L.E., 1975B, "Assessment of the State of the Art", in L.E. Davis, A.B. Cherno and Associates 'The Quality of Working Life', Free Press, New York and London, Vol. I
- CHERNS, A.B., SINCLAIR, R. and JENKINS, W.I., 1972, Social Science and Government, Tavistock, London
- CHILD, J., 1964, "The Teaching of Management Principles", Scientific Business, November, 2, 7, p.269-273
- CHILD, J., 1967, "British Management Thought and Education", Ph.D. thesis, University of Cambridge
- CHILD, J., 1969A, British Management Thought, Allen and Unwin, London
- CHILD, J., 1969E, The Business Enterprise in Modern Industrial Society , Collier Macmillan, London
- CHILD, J., 1970, "More Myths of Management Organisation?", Journal of Management Studies, Vol. 7, No. 3, p.376-390
- CHILD, J., 1972, "British Publications on Work and Organisation", British Book News, December, p.1014-1018
- CLARK, P., 1972A, "Research on Social Science Utilisation - Context and Direction", CUSSR, 37, Working Paper, March
- CLARK, P.A., 1972B, Action Research and Organisational Change , Harper and Row, London
- COCH, L. and FRENCH, J.R.P., 1948, "Overcoming Resistance to Change", Human Relations, 1, p.512 and p.532
- COCKBURN, A. and BLACKBURN (eds), 1969, Student Power, Penguin, Harmondsworth

- COE, R.K. and WEINSTOCK, I., 1968, "Publication policies of major business journals", Southern Journal of Business, January, 3, p.1-10
- COHEN, F.S., 1954, 'The Reconstruction of Hidden Value Judgements: Word Choices as Value Indicators', from L. Bryson et al (eds), 13th Conference on Science, Philosophy and Religion, "Symbols and Values: An Initial Study", New York, Harper and Row
- COLE, S., 1970, "Professional Standing and the Reception of Scientific Studies", American Journal of Sociology, 76, p.286-306
- COLE, S. and COLE, J.R., 1967, "Scientific output and recognition: A study in the operation of the Harvard system in science", American Sociological Review, 33, p.377-390
- COLE, S. and COLE, J.R., 1968, "Visibility and the Structural Bases of Awareness of Scientific Research", American Sociological Review, 33, p.397-413
- COLEMAN, J., 1958, "Relational analysis: The Study of social organisation with. survey methods", Human Organisation, 17, 4, p.28-36
- COLFAX, J.R. and ROACH, J.L. (eds), 1971, Radical Sociology, Basic Books, New York
- COLLINSON, P. and WEBBER, S., 1970, Sociology 1950-1970: A Journal Analysis, Sociological Review, N.S. 19, p.521-542 (November No. 4)
- COMMITTEE ON HIGHER EDUCATION, 1963, Higher Education Report, (Chairman Lord Robbins), Cmnd. 2154, H.M.S.O., London, October
- COOK, F.G., 1971, "The Concept of Ideology and its Application to the Study of Trade Unions", M.A. Thesis, University of Liverpool
- COOPER, W.M., 1966, 'Change in Britain', in W.M. Cooper et al, "Governments and the University", Macmillan, Toronto
- COOPER, W.M., et al., 1966, Governments and the University, Macmillan, Toronto
- COPP, J.H., SILL, M.L. and BROWN, E.J., 1958, "The Function of Information Sources in the Farm Practice Adoption Process", Rural Sociology, June. 23, p.146-157
- COUGHENOUR, C.M., 1965, 'The Problem of Reliability of Adoption Data in Survey Research', Rural Sociology, 30, p.184-203

- COULSON-THOMAS, C., 1975, A guide to Business Schools , Hamilton/St. George's Press
- COWTON, R., 1977, "Training for teamwork at ICI Mond", The Times, 10 October
- COX, D.J., 1974, The Problematic of the Subject in British Industrial Sociology, M.Phil. thesis, University of Edinburgh
- CRANE, D., 1977, "Social Structure in a Group of Scientists: A Test of the 'Invisible College' Hypothesis", in S. Leinhardt "Social Networks: a developing paradigm", Academic Press Inc., New York
- CRANE, D., 1970, The Gatekeepers of Science: Some Factors Affecting the Selection of Articles for Scientific Journals, in L.J. and J.M. Reynolds (eds), The Sociology of Sociology, David McKay Co. Inc., New York
- CRANE, D., 1972, Invisible Colleges , University of Chicago Press, Chicago
- CRAVENS, D.W et al, 1971, "Identifying innovator and non-innovator retail firms", Southern Journal of Business, April, 6, 4, p.5-51
- CRAWFORD, E.T. and BIDERMAN, A.D., 1970, "Paper money: trends of research sponsorship in American sociology journals", Social Science Information, 9, (1), p.51-77
- CRAWFORD, E. and PERRY, N. (eds), 1976, Demands for Social Knowledge: the role of research organisations, Sage, London
- CRAWFORD, E. and ROKKAN, S. (eds), 1976, Sociological Praxis: current roles and settings, Sage, London
- CRISP, J., 1978, "Why Watney is putting its managers through the hoop", Financial Times, 23 October
- CROSS, P., 1976, "The British Business Creed: Changing Ideologies and Self Images of Business Ethics and Management in Britain", Ph.D. thesis, London School of Economics
- CROUCH, C., 1977, Class Conflict and the Industrial Relations Crisis , Heinemann, London
- CULLEY, J.D., HEALY, D.F. and CUDD, K.G., 1977, "Business students and the university library...", Journal of Academic Librarianship, January, 2, 6, p.293-296

- CUMMINGS, T.G., MOLLOY, E.S. and GLEN, R., 1977, "A Methodological Critique of Fifty-Eight Selected Work Experiments", Human Relations, 30, 8, p.675-708
- CURRAN, J. et al (eds), 1977A, Mass Communication and Society , Arnold, London
- CURRAN, J., 1977B, "Capitalism and Control of the Press 1800-1975", in J. Curran et al (eds), Mass Communication and Society , Edward Arnold, London
- CZEPIEL, J.A., 1974, "Word-of-mouth processes in the diffusion of a major technological innovation", Journal of Marketing Research, May, 11, p.172-180
- DAFT, R.L., 1978 "Organisational Innovation", Academy of Management Journal, June, p.183-210
- DAHRENDORF, R., 1973, Homo Sociologicus , RKP, London
- DAHRENDORF, R., 1975, The New Liberty , RKP, London
- DAINTON REPORT, 1968, Enquiry into the Flow of Candidates in Science and Technology into Higher Education. Report of the Committee under the Chairmanship of F.S. Dainton, H.M.S.O., Cmnd. 3541, London
- DAIRY INDUSTRIES, 1975, "Management training in the dairy industry", Diary Industries, March
- DALTON, M., 1959, Men Who Manage , Wiley, New York
- DANIEL, W.W., 1969A, "Automation and the Quality of Work", New Society, 5 May
- DANIEL, W.W., 1969B, "Industrial Behaviour and Orientation to Work", Journal of Management Studies, October, 6
- DAVIES, B., 1978, "Developing Managers for the Eighties", Manchester Business School Review, 2, 4. p.2+
- DAWE, A., 1971A, "The Two Sociologies" in K. Thompson and J. Tunstall (eds), Sociological Perspectives, Penguin, Harmondsworth
- DAWE, A., 1971B, "'A Sociology of Sociology': An Extended Review", Sociological Review, 19

- DEEM, R., 1979, "A Survey of the Teaching of Industrial Sociology in British Higher Education", S.S.R.C. Final Report - HR 5065
- DE GRAZIA, A., 1961, The Hatred of New Social Science, American Behavioural Scientist, October, 5, p.5-13
- DE GRAZIA, 1963, "The Scientific Reception System and Dr. Velikovsky", The American Behavioural Scientist, September, Vol. VII, No. 1, p.45-68
- DENCIK, L. (ed), 1971, Scientific Research and Politics, Student litteratur, Lund, Sweden
- DENNING, B., 1974, "Lost in the management education jungle", European Business, Autumn, p.42-46
- DEPARTMENT OF EDUCATION AND SCIENCE, 1965, Report of the Committee on Social Studies, Cmnd. 2660, H.M.S.O., London, June
- D.S.I.R./M.R.C., 1958, Human Relations in Industry 1954-57, Individual Efficiency in Industry 1953-57, H.M.S.O.
- DEPARTMENT OF EDUCATION AND SCIENCE, 1967, "Scientific Research in British Universities", H.M.S.O., London
- DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH, 1961, "Human Sciences aid to Industry", D.S.I.R., H.M.S.O., London
- DEUTSCH, M., 1971, "Conflicts: Productive and Destructive", in H.A. Hornstein et al (eds), Social Intervention: A Behavioural Science Approach, Free Press, New York
- DEWS, J.D., 1970, "The use of information sources by teachers and research workers in the field of business studies", Report to the Office for Scientific and Technical Information on project S1/25/228
- DEWS, J.D., 1973, "A core list of periodicals", Management Education and Development Journal, December, 4, 3, p.170-177
- DICKINSON, A.W., 1978A, "The Teaching of Industrial Relations", Training, (U.K.), March, p.8
- DICKINSON, A.W., 1978B, "The Teaching of Industrial Relations", Training, (U.K.), May, p.16

- DICKINSON, A.W., 1978C, "The Teaching of Industrial Relations", Training, (U.K.), June, p.20
- DIGGER, J.A. (ed), 1969-1978, Library and Information Science Abstracts, The Library Association, WC1E 7AE
- DIRECTOR, 1977, "Power and politics at the TUC", Director, December, 30, p.6
- DIRECTOR, 1978, "Business Education and the British schools", Director, September, p.48
- DIXON, M., 1972, "The dons who get their hands dirty", Financial Times, 7 June, p.17
- DODD, S.C., 1958, "Formulas for spreading opinions", Public Opinion Quarterly, Vol. 22, p.537-554
- DOUGIER, H., 1969, "Assessing management education in Europe", European Business, October, p.31
- DOUGLAS, J.D. (ed), 1970, The Relevance of Sociology, Appleton, New York
- DUBIN, R. (ed), 1976, Handbook of Work, Organisation and Society, Rand McNally, Chicago
- DUNNE, J., 1973, "The TUC Library", Librarians for Social Change, Winter, 4, p.13
- DUNNETTE, M.D. and BASS, B.M., 1963, "Behavioural Scientists and Personnel Management", Industrial Relations, May, 2, (3), p.115-130
- DUNNETTE, M.D. and BROWN, Z.M., 1968, "Behavioural Science Research and the Conduct of Business", Academy of Management Journal, 2, 2, p.177-188
- DURAND, D.E., 1974, "Citation count analysis of behavioural science journals in influential management literature", Academy of Management Journal, September, 17, p.579-583
- EARLE, A.F., 1966, "The integration of the behavioural sciences in management studies", British Psychological Society Bulletin, July, 19
- EARLE, P. and VICKERY, B., 1969, "Social Science Literature Use in the U.K. as indicated by citations", Journal of Documentation, 25, p.123-141

- ECONOMIST INTELLIGENCE UNIT, THE, 1972, "Brewing and the U.K. Beer Market - Part 1", Retail Business, August, 174, p.14-24
- ECONOMIST INTELLIGENCE UNIT, THE, 1972, "Brewing and the U.K. Beer Market - Part 2", Retail Business, September, p.175
- EDINBURGH GROUP, THE, 1971, "Behavioural Science in British Industry", Personnel Management, 3, September, p.28-30
- EDMONSON, M.S., 1961, 'Neolithic Diffusion Rates', Current Anthropology, 2, p.71-102
- EGLIN, R., 1977, "Business schools come under fire from action man", Industrial Management, May, p.25-27
- EICHHOLZ, G. and ROGERS, E.M., 1964, "Resistance to the adoption of audio-visual aids by elementary school teachers: contrasts and similarities to agricultural innovation", in M.B. Miles (ed), Innovation in Education, p.299-316, Teachers College Press, Teachers College, Columbia University, New York
- EIDELL, T.L. and KITCHEL, J.M., 1967, Knowledge Production and Utilization in Educational Administration, University of Oregon Press, Eugene, Oregon
- ELDEN, J.M., 1976, "Democracy at work for a more Participatory Politics", Ph.D. Thesis, University of California, Los Angeles
- ELDRIDGE, J.E.T., 1976, Sociology and Industrial Life, Nelson, Middlesex
- ELKINS, T., 1970, So they brewed their own beer, Northumberland Press, Gateshead
- ELLIOT, J., 1978, Conflict or Cooperation, Kogan Page, London
- ELLIOTT, K. (ed), 1975, "Management Bibliographics and Reviews, Vol. 1", MCB Books, Bradford
- EMERY, F.E., 1959, "Characteristics of Socio-technical systems", Mimeo
- EMERY, F.E. (ed), 1969, Systems Thinking, Penguin, Harmondsworth
- EMERY, F.E. and TRIST, E.L., 1965, "The Causal Texture of Organisational Environments", Human Relations, 18, p.21-32

- EMERY, F.E. and TRIST, E.L., 1969, "Socio-technical Systems", in F.E. Emery (ed), Systems Thinking, Penguin, Harmondsworth
- EPSTEIN, J.H., and WARREN, R.H., 1968, "The role of behavioural science in organisations", Personnel Journal, October, 47, 10, p.716-724
- ESLAND, G., 1976, "Unions and Management in Steel", in People and Work, Media Booklet 4, O.U. Press
- ETZIONI, A., 1964, Modern Organisations, Prentice-Hall
- EUROPEAN INDUSTRIAL RELATIONS REVIEW, 1975, "Job enrichment at Telemecanique", European Industrial Relations Review, September, 21
- EUROPEAN PRODUCTIVITY AGENCY, (undated), Register of Research in the Human Sciences Applied to Problems of Work and Directory of Relevant Research Institutions, (U.K.), N.V. De Arbeiderspers, Amsterdam
- EVAN, W.M., 1966, "Organisational Lag", Human Organisation, 25, p.51-53
- EVAN, W.M. and BLACK, R., 1967, "Innovation in Business Organisations: Some Factors Associated with Success or Failure of Staff Proposals", Journal of Business, 40, p.519-530
- EZARD, J., 1970, "Sussex All At Sea", The Guardian, May 12, p.11
- FALLERS, L.A., 1954, "A Note on the 'Trickle' Effect", Public Opinion Quarterly, Fall, xviii, p.314-321
- FARMER, E.R., 1972, "An evaluation of management education in practice related to the diploma in management studies", M.Sc., Bath University
- FATCHERIC, J.P., 1975, "Survey of users of a medium-sized technical library", Special Libraries, May/June, 66, (5/6), p.245-251
- FERBER, R., 1968, "The role of the university in business research...", Business Horizons, April, 11, p.19-22
- FIDLER, J.E., 1979, "The Beliefs, Values and Attitudes of British Top Businessmen concerning class and class relationships, within the firm, and wider society", Ph.D. Thesis, University of Aston, February
- FINANCIAL TIMES, 1971, "Management education - regional centres plans", Financial Times, 13 March, p.10

- FINER, S.E., 1971, 'The Political Power of Private Capital', in F.E. Castles et al (eds), Decisions, Organisations and Society, Penguin, Harmondsworth
- FLANDERS, A., 1964, The Fawley Productivity Agreements , Faber & Faber, London
- FLEISHMAN, E.A., 1953, 'Leadership Climate, Human Relations Training and Supervisory Behaviour', Personnel Psychology, 6, 2, p.205-222
- FLEISHMAN, E.A. (ed), 1967, Studies in Personnel and Industrial Psychology , Dorsey Press, Homewood, Illinois
- FLIEGEL, F.C. and KIVLIN, J.E., 1962, 'Farm Practice Attributes and Adoption Rates', Social Forces, May, 40, p.364-370
- FLIEGEL, F.C. and KIVLIN, J.E., 1966, 'Farmers' Perceptions of Farm Practice Attributes', Rural Sociology, 31 June, p.197-206
- FLUGEL, J.C., 1950, The Psychology of Clothes , Hogarth Press, London
- FORD, C.H., 1978, 'A Manager's view of business journals', Business Horizons, April, 21, p.18-22
- FORD, J.R., 1972, 'Disaggregating the User System', in CUSSR, Papers on Social Science Utilisation", Monograph 1, October
- FORD, J., 1970, Facts, Evidence and Rumour: A Rational Reconstruction of 'Social Class and the Comprehensive School', in M. Shipman (eds), The Organisation and Impact of Social Research, RKP, London
- FORD, J. and APPLEBY, B., (undated), "Some Observations on the Role of the Applied Social Scientist", CUSSR
- FORD, J.R. and PLUMB, B., 1970, "Bibliography on the Utilisation of Social Science Research", Vol. 1, CUSSR, Loughborough, Spring
- FORES and CLARK, 1975, 'Why Sweden manages better', Management Today, February, p.66-69
- FOX, A., 1971, A Sociology of Work in Industry , Collier Macmillan, London
- FOX, A., 1974A, Man Mismanagement , Hutchinson, London
- FOX, A., 1974B, Beyond Contract: Work, Power and Trust Relations , Faber and Faber, London

- FRANKS, The Rt Hon. Lord, 1963, "British Business Schools", British Institute of Management, London
- FRIEDMANN, G., 1955, Industrial Society: the emergence of the human problems of automation, Free Press of Glencoe, New York
- FRIEDRICHS, R., 1970, A Sociology of Sociology, Collier Macmillan
- FRYER, R. FAIRCLOUGH, A. and MANSON, T., 1974, "Organisation and Change in the National Union of Public Employees", N.U.P.E., London, August
- FUSSLER, H., 1973, "Management education: implications for Libraries and Library schools", Proceedings of the 36th Annual Conference of the Graduate Library School (of the University of Chicago) 9-10 April, Library Quarterly, October, 43 (4), p.281-393
- GALBRAITH, J.K., 1969, The New Industrial State, Penguin, Harmondsworth
- GALLIE, D., 1978, In Search of the New Working Class, C.U.P., Cambridge
- GANESH, S.R., 1978, "Organisational consultants: a comparison of style", Human Relations, January, 31, p.1-28
- GANGUIN, E., 1977, "Developing talents at Unigate", The Financial Times, 19 April
- GARBUTT, D., 1970, "An Evaluation of Management Education and Training", M.Ed. Thesis, University of Leicester (School of Education)
- GARVER, R.A., 1953, "The Labor Press as a Leadership Tool", Journalism Quarterly, 35, 3, p.324-32
- GASSON, R., 1979, "Labour Sharing in Agriculture", Mimeo, Wye College, April
- GATER, A. et al., 1966, Attitudes in British Management, (A P.E.P. Report), Penguin, Harmondsworth
- GEORGI, C., 1968, "How to keep a business library going", Library Journal, 1 March, 93, p.959-963
- GERAS, N., 1972, Marx and the Critique of Political Economy, in R. Blackburn (ed), Ideology in Social Science, Fontana
- GERTH, H.H. and MILLS, C.W. 1948, From Max Weber: Essays in Sociology, RKP, London

- GIDDENS, A., 1971, Capitalism and Modern Social Theory, C.U.P., Cambridge
- GIEBER, W., 1960, "Two Communicators of the News: A Study of the Roles of Sources and Reporters", Social Forces, Vol. 39, No. 1, p.76-83
- GILL, H.S., 1979, "Utilising Social Science Research", Paper given to Conference in January, Mimeo
- GLASER, B.G. and STRAUSS, A.L., 1967, The Discovery of Grounded Theory, Aldine, Chicago
- GLASGOW UNIVERSITY MEDIA GROUP, 1976, Bad News, Vol. 1, RKP, London
- GLAZER, N., 1968, 'The Ideological Uses of Sociology in Lazarsfeld, P.F. et al (eds), The Uses of Sociology, Weidenfeld and Nicolson, London
- GLOVER, I.A., 1977, "Managerial Work: A Review of the Evidence", City University, Ph.D. thesis, London
- GOLDTHORPE, J.H., 1959, "Technical Organisation as a factor in supervisor-worker conflict", British Journal of Sociology, 10, p.213-230
- GOLDTHORPE, J. et al., 1968, The Affluent Worker: Industrial Attitudes and Behaviour, C.U.P., Cambridge
- GOMBERG, W., 1973, "Job Satisfaction: Sorting Out the Nonsense", AFL-CIO American Federationist, June p.14-19
- GOODMAN, J.W. (ed), 1965-1979, Anbar Management Publications, Anbar Publications Ltd., Wembley
- GORDON, A.J., 1972, "Interim Report- J. Lucas Ltd.", June, University of Aston in Birmingham
- GORDON-BROWN, I. et al., 1973, "The Lucas Suggestion Scheme", Industrial Participation, Summer, 552, p.26-29
- GORZ, A. (ed). 1976, The Division of Labour, Harvester Press, Hassocks, Sussex
- GOULDNER, A.W., 1954, Patterns of Industrial Bureaucracy, Free Press, New York
- GOULDNER, A.W., 1970, The Coming Crisis of Western Sociology, Heinemann

GOULDNER, A.W., 1975, For Sociology¹, Penguin, Harmondsworth

GOWER REFERENCE PUBLICATIONS, 1972, "The Register of Management Consultants", Gower Press, Epping, Essex

GRANT, W. and MARSH, D., 1977, The C.B.I., Hodder and Stoughton, London

GREGORY, D. (ed), 1978, "Work Organisation: Swedish experience and British context", SSRC, London

GREVE, R., (undated), Selected and Partially Annotated Bibliography on Certain Aspects of the Quality of Working Life with Special Reference to Work Organisation, (1970-1975), International Institute for Labour Studies, Geneva

GROSS, L. (ed), 1967, Sociological Theory: Inquiries and Paradigms, Harper and Row, New York

HÄGERSTRAND, T., 1968, 'The Diffusion of Innovations', in D.L. Sills (ed), International Encyclopedia of the Social Sciences, Macmillan and Free Press, Vol. 4. p.174-177

HAINES, J., 1977, The Politics of Power, Jonathon Cape, London

HALLORAN, J.D., 1969, "The Sociology of Mass Media Communicators", Sociological Review Monograph, Keele, January, 13, p.5-20

HALLORAN, J.D., 1974, Mass Media and Society: The Challenge of Research, Leicester University Press

HALMOS, P. (ed), 1968, "The Development of Industrial Societies", Sociological Review Monograph, 8, p.43-61

HALSEY, A.J. and TROW, M.A., 1971, The British Academics, Faber and Faber, London

HAMMELMAN, P.W. and MAZZE, E.M., 1972, "On the Impact of Management Science", Interfaces, 3, 1, p.8-17

HARBISON, F. and MYERS, C.A., 1959, Management in the Industrial World, McGraw Hill, New York

HARDING, D.W., 1931, "A Note on the Subdivision of Assembly Work", Journal of the National Institute of Industrial Psychology, 5, p.261-264

- HARTLEY, C., 1978, "Constraints on innovation - why the 'experts' get it wrong", Financial Times, 8 September, p.13
- HARTMANN, R., and HUSBAND, C., 1974, Racism and the Mass Media, Davis-Poynter, London
- HARVEY, D., 1972, "How the healers heal themselves", Business Administration, September, p.30-40
- HARVEY, M., 1972, 'Sociological Theory: The Production of a Bourgeois Ideology', in T. Pateman (ed), Countercourse, Penguin, Harmondsworth
- HAVELOCK, R.G., 1967, "Dissemination and Translation Roles", in T.L. Eidell, and J.M. Kitchel, Knowledge Production and Utilization in Educational Administration, University of Oregon Press, Eugene, Oregon
- HAVELOCK, R.G., 1969, "Planning for Innovation: A Comparative Study of the Literature on the dissemination and utilization of scientific knowledge", Centre for Research on Utilization of Scientific Knowledge, University of Michigan, Ann Arbor, Michigan, July
- HAVEMANN, E., 1966, "Journalists and jargonists", Columbia Journalism Review, Summer, 5, p.12-16
- HELLER, F., 1973, "The State of the British Boardrooms", Management Today, May, p.81-83
- HELLER, F., 1976A, "Some thoughts on the underutilization of social science research", Unpublished, Mimeo
- HELLER, F., 1976B, 'Feedback for Access', in Brown, C. et al (eds), The Access Casebook, Teknisk, Hogskolitteratur i Stockholm AB
- HELLER, R., 1971, "The role of the management journalist", Financial Times, 18 September, p.11
- HENDERSON, G.P. and HENDERSON, S.P.A. (eds), 1979, "Directory of British Associations", (Edition 5), CBD Research Ltd., Beckenham, Kent
- HENNESSY, E., 1970, "More thrust to the smaller firms", Director, May, 22, p.270-271
- H.M.S.O., 1965, Fifth Report of the Estimates Committee, H.M.S.O., London

- H.M.S.O., 1971, "A Framework for government research and development, (The Rothschild Report), H.M.S.O., London, Cmnd. 4814, November
- H.M.S.O., 1975, Second Report from the Select Committee on Science and Technology: Scientific Research in British Universities, Session 1974-75, 23 July, H.M.S.O., London
- HIBBERT, G.G., 1969, "Identification of a need for social science input and some applications in a major oil refining company", M.Sc. Thesis, Loughborough University of Technology
- HIGHAM, J.M., 1979, "The proper study of industrial psychology", New Universities Quarterly, Spring, 33, 2, p.188-195
- HILL, J.M.M., 1956, "The Time Span of Discretion", Human Relations, 9, p.295-323
- HILL, J.M., 1972, The Seafaring Career, Tavistock, London
- HILL, R.L. et al, 1978A, "Personnel People as Internal Consultants", The Personnel Administrator, (U.S.A.), May, p.62
- HILL, R.L. et al, 1978B, "Personnel People as Internal Consultants", The Personnel Administrator, (U.S.A.), July, p.17
- HILTON, R.H. and GRIFFITH, J.A.G., 1973, Letters to the Editor, The Times, Higher Education Supplement, 8 June, p.12
- HIRST, P.Q., 1976, "Althusser and the theory of ideology", Economy and Society, 5, 4, p.385-412
- HJELHOLT, G., 1976, "Europe is Different", in G. Hofstede and M.S. Kassen (eds), European Contributions to Organisation Theory, Van Gorcum, Assen
- HLAVACEK, J.D. and THOMPSON, V.A., 1978, "Bureaucracy and Venture Failures", The Academy of Management Review, 3, 2, p.242
- HOBDAY, P., 1975, "Oasis in Manchester", Director, November, 28, p.203-204
- HOFSTEDE, G. and KASSEN, M.S. (eds), 1976, European Contributions to Organisation Theory, Van Gorcum, Assen
- HOLMES, P., 1976, "A Progress Report on Regional Management Centres", Industrial Training International, June, p.192-196

- HORNE, J.H. and LUPTON, T., 1965, "The work activities of middle managers", Journal of Management Studies, February, 2, 1, p.14-23
- HORNSTEIN, H.A. et al (eds), 1971, Social Intervention: A Behavioural Science Approach, Free Press, New York
- HOROWITZ, I.L., 1962, The Sociological Imagination of C. Wright Mills in Memoriam, American Journal of Sociology, July, Vol. 68, p.105-107
- HOROWITZ, I.L., (ed), 1963, Power, Politics and People, O.U.P., New York
- HOROWITZ, I.L. (ed), 1967A, The Rise and Fall of Project Camelot, M.I.T. Press, Cambridge, Mass.
- HOROWITZ, I.L., 1967B, "Mainliners and Marginals: the human shape of sociological theory", in L. Gross (ed), Sociological Theory: Inquiries and Paradigms, Harper & Row, New York, p.358-383
- HOROWITZ, I.L. and BARKER, P., 1974, "Mediating journals: reaching out to a public beyond the scientific community", International Social Science Journal, 26, 3, p.393-403
- HORTON, J., 1971, "The Fetishism of Sociology", in J.D. Colfax and J.L. Roach (eds), Radical Sociology, Basic Books, New York
- HUGHES, J., 1964, "Change in the Trade Unions", Fabian Pamphlet, Research Series 244, August
- HUGHES, J., 1974, "Research and relationships with customers: the experience of the Trade Union Research Unit", S.S.R.C. Newsletter, 25 October/November, p.11-14
- HUGHES, J., 1976, "Trade Union Support for Research", Paper to SSRC Committee (Management and Industrial Relations), January, Mimeo
- HYMAN, R. and BROUGH, I., 1975, Social Values and Industrial Relations, Oxford, Blackwell, S.S.R.C.
- HYMAN, S., 1965, "Who helps managers", New Society, 138, 20 May, p.20-21

- INCOMES DATA SERVICES, 1979, "Changes in Work Organisation", IDS Study, October, No. 203
- INDUSTRIAL AND COMMERCIAL TRAINING, 1980, S.S.R.C. Advertisement, Industrial and Commercial Training, February, 12, 2, p.77
- INDUSTRIAL MANAGEMENT, 1974, "What they taught me at business school", Industrial Management, November, 4, p.16-17+
- INDUSTRIAL MANAGEMENT, 1978, "Conferences - the £300m British Conference Industry", Industrial Management, January, p.43+
- INDUSTRIAL RELATIONS RESEARCH UNIT, 1977, Annual Report, 1 October 1977 to 30 September 1978, S.S.R.C. - Industrial Relations Research Unit
- INDUSTRIAL SOCIETY, 1968, "Top level learners", Industrial Society, February, p.29
- INDUSTRIAL TRAINING BOARDS, Reports and Accounts 1978 or 1978-9 - Various
- INDUSTRY WEEK, 1978, "How top executives get their news", Industry Week, 1 May, 197, p.31-32
- INGLEBY, D., 1972, 'Ideology and the Human Sciences', in T. Pateman, (ed), Countercourse, Penguin, Harmondsworth
- INSTITUTE FOR SCIENTIFIC INFORMATION, 1974-1977, Social Sciences Citation Index, Institute for Scientific Information Inc., Philadelphia
- INTERNATIONAL BIBLIOGRAPHY OF THE SOCIAL SCIENCES - SOCIOLOGY, 1975-76, Tavistock, London
- INTERNATIONAL LABOUR OFFICE, 1976, "Management and Productivity: an international directory of institutions and information sources", I.L.O., Geneva
- INTERNATIONAL SOCIAL SCIENCE JOURNAL, 1974, "Communicating and diffusing social science: symposium on periodicals and other supports for the scientific message", International Social Science Journal, 26, 3, p.373-443
- ISRAEL, J., 1971, 'Social Science and Politics', in L. Dencik (ed), "Scientific Research and Politics", Student litteratur, Lund, Sweden
- IVENS, M. (ed), 1970, Industry and Values, Harrap, London

- JACOBS, M.J. (ed), 1971, "Films for managers: a guide to management and supervisory training films available in the U.K.", London, British Institute of Management
- JAQUES, E., 1951, The Changing Culture of a Factory , Tavistock/RKP, London
- JENKINS, J., 1976, 'Supervising a project', in Brown, C. et al (eds), The Access Casebook, Teknisk, Hogskolitteratur i Stockholm AB
- JESSUP, G., 1978, "Behavioural considerations of production technology: technology, employment and job satisfaction", W.R.U. Occasional Paper No. 10, London, June
- JOHANSEN, H. and PAGE, G.T., 1975, International Dictionary of Management . Kogan Page Ltd., London
- JOHNS, E.A., 1968, "The Distinctive Contribution of the Behavioural Sciences to Management", Secretaries Chronicle, March, p.92-95
- JOHNSON, T.J., 1972, Professions and Power , Macmillan
- JOHNSTONE, J.W.C. et al., 1976, The news people: a sociological portrait of American Journalists and their work , University of Illinois Press
- JONES, H., 1976, "Why the bookmen turned to business", Director, December, 29, p.33-34
- KATZ, E., 1968, "Interpersonal Influence", in D.L. Sills (ed), "International Encyclopedia of the Social Sciences", Macmillan and Free Press, Vol. 4, p.178-185
- KATZ, E. et al, 1962, Studies of Innovation and of Communication to the Public , Stanford, California
- KATZ, E., HAMILTON, H. and LEVIN, M.L., 1963, "Traditions of Research on the Diffusion of Innovation", American Sociological Review, April, Vol. 28, No. 2, p.237-252
- KATZ, E. and LAZARSFELD, P.F., 1955, Personal Influence , Free Press of Glencoe, New York
- KEEGAN, W.J., 1968, "How and where do executives acquire important business information?", Incentive, 11, p.11-13
- KELLY, J., 1968, Is Scientific Management Possible? , Faber and Faber, London

KELLY, J., 1969, Organisation Behaviour , Homewood, Illinois

KELLY, J.E., 1978, "A Reappraisal of Sociotechnical Systems Theory",
Human Relations, 31, 12, p.1064-1097

KEMPNER, T. (ed), 1976, A Handbook of Management , Penguin, Harmondsworth

KENNEA, T., 1972, "SSRC support for polytechnics and other colleges with
advanced courses", S.S.R.C. Newsletter 15, June, p.13-14

KENNEDY, C., 1977, "Loughborough study group: how directors can profit from
shared problems", Director, September, 30 p.44-45

KENNEDY, C., 1978, "The New Graduates and the Will to Succeed", The Director,
June, p.25-26

KENTON, L., 1973, "The Graduate Crunch", Management Today, April, p.109+

KERR, C. and FISHER, L.H., 1957, "Plant Sociology: the Elite and the
Aborigines in Komarovsky, M. (ed), Common Frontiers of the Social
Sciences, Free Press, Glencoe, Illinois

KEYNES, J.M., 1936, The General Theory of Employment, Interest and Money ,
Macmillan

KIVLIN, J.E. and FLIEGEL, F.C., 1967, "Differential Perceptions of Innovations
and Rate of Adoption", Rural Sociology, 32, p.78-91

KIVLIN, J.E. and FLIEGEL, F.C., 1968, Orientations to Agriculture: A Factor
Analysis of Farmers' Perceptions of New Practices, Rural Sociology, 33,
4, p.127-140

KLAPPER, J.T., 1960, The Effects of Mass Communication , Free Press, New York

KLEIN, L., 1976, A Social Scientist in Industry, Gower Press

KLEIN, L., 1978, "What the Social Sciences have to offer, and some of the
Issues involved in making use of them", Paper to Europäische Forum über
Organisationsentwicklung Aachen,

KNIGHT, K.E., 1967, "A Descriptive Model of the Intra-firm innovation process",
Journal of Business, 40, 4, p.478-496

- KOENIG, D.J., 1969, "On Individual and Disciplinary Influences upon Contemporary Sociology", The American Sociologist, August, 4, 3, p.242
- KOMAROVSKY, M. (ed), 1957, Common Frontiers of the Social Sciences, Free Press, Glencoe, Illinois
- KÖNIG, R., 1973, The Restless Image, Allen and Unwin, London
- KORNHAUSER, A., 1949, The Contribution of Psychology to Individual Relations Research, Proceedings of the First Annual Meeting of the Individual Relations Research Association, 29-30 December, 1948, Cleveland, Ohio
- KRAUSZ, E., 1969, Sociology in Britain: a survey of research, Columbia University Press, New York
- KRIEGHBAUM, H., 1968, Science and the Mass Media, University of London Press, London
- KRUPP, S., 1961, Pattern in Organisation Analysis: a critical examination, Holt, Rinehart and Winston, New York
- KUHN, T.S., 1974, The Structure of Scientific Revolutions, University of Chicago
- LABOUR RESEARCH DEPARTMENT, 1974, Big Business and Politics, L.R.D. Publications, London, August
- LAKATOS, I. and MUSGRAVE, A. (eds), 1970, Criticism and the Growth of Knowledge, C.U.P.
- LASSWELL, H.D., 1958, Politics: Who Gets What, When, How, Meridian Books, Cleveland, Ohio
- LAWRENCE, W.G., 1979, Exploring Individual and Organisational Boundaries, Wiley, London
- LAWRENCE, G. and FOBINSON, P., 1975, "An innovation and its implementation: issues of evaluation", Tavistock, CASR DOC, No. 1069, March
- LAZARSFELD, P.F. and MERTON, R.K., 1957, "Mass Communication, Popular Taste and Organised Social Action", in B. Rosenberg and D. White (eds), Mass Culture - The Popular Arts in America, Free Press, New York
- LAZARSFELD, P.F., SEWELL, W.H. and WILENSKY, H.L. (eds), 1968, The Uses of Sociology, Weidenfeld and Nicolson, London

- LAZARSFELD, P.F. and REITZ, J.G., 1970, Toward a theory of applied sociology, Bureau of Applied Social Research, Columbia University, November
- LAZARSFELD, P.F. et al, 1968, The People's Choice, Columbia University Press, New York
- LEGGATT, T., 1978, "Managers in Industry: their background and education", Sociological Review, November, 26, 4, p.807-825
- LEINHARDT, S., 1977, Social Networks: a developing paradigm, Academic Press Inc., New York
- LENNON, R. and HOLLENBECK, G.P., 1972, "The Impact of Behavioural Science on Business and Industry", Organizational Dynamics, Summer, p.73-80
- LERNER, M. (ed), 1948, The Portable Veblen, Viking Press, New York
- LERNER, D. and LASSWELL, W.D. (eds), The Policy Sciences, Stanford University Press, Stanford, California
- LEWIS, M., 1977, "Sociology, management and libraries", Library Review, 26, 1, p.3-9
- THE LIBRARY ASSOCIATION, 1966-78, British Humanities Index, Unwin Brothers; the Gresham Press, Old Woking
- LIBRARY ASSOCIATION, 1969-78, Library and information science abstracts, Library Association, London
- LIN, N. and NELSON, C.E., 1969, "Bibliographic Reference Patterns in Core Sociological Journals 1965-1966", The American Sociologist, February, 4, 1, p.47-50
- LINE, M.B. et al, 1968, "Investigation into information requirements of the social sciences: report on the preliminary stage, September 1968 to March 1968", Bath University, April
- LIPPITT, R., 1965, "The Use of Social Research to Improve Social Practice", American Journal of Orthopsychiatry, 35, p.663-669
- LITTLEJOHN, G. et al. (eds), 1978, "Power and the State", B.S.A., (Croom Helm),
- LIVINSTONE, H., 1974, "The University: An Organisational Analysis", Blackie, Glasgow
- LOCKWOOD, D., 1975, "Sources of Variation in Working-Class Images of Society", in M. Bulmer (ed), Working-Class Images of Society, RKP, London

- LORD, D., 1971, "Consultants: the men behind the myths", International Management, August, 26, p.30-34
- LUKES, S., 1974, Power: A Radical View, Macmillan, London
- LUPTON, T., 1966, Management and the Social Sciences, Hutchinson, London
- LUPTON, T., 1972, "Business Education British Style", Centre for Business Research, Newsletter, Spring, p.3-5
- LYND, R.S., 1969, Knowledge for What?, Princeton University Press, New Jersey
- LYNN, R., 1971, "The universities and the business community", Twentieth Century, 179, 1046, p.40-43
- MCCARNEY, J., 1976, "The Theory of Ideology: Some Comments on Mepham", Radical Philosophy, Spring, p.28-31
- MCCOMBS, M.E. and SHAW, D.L., 1972, "The Agenda Setting Function of the mass media", Public Opinion Quarterly, Summer, 36, p.176-187
- MCCONNELL, T.R., 1966, "Governments and the University - A Comparative Analysis", in W.M. Cooper 'Governments and the University', Macmillan, Toronto
- MCGIVERING, I.C. et al., 1960, "Management in Britain", Liverpool University Press, Liverpool
- McKEE, J.B., 1970, "Some Observations on the Self-Consciousness of Sociologists", in L.T. and J.M. Reynolds (eds), The Sociology of Sociology, David McKay Co. Inc. New York
- MacKENZIE, G.N., 1964, "Curricula Change: participants, power and processes", in M.B. Miles (ed), Innovation in Education, p.399-424, Teachers College Press, Teachers College, Columbia University, New York
- McKERSIE, R.B. and HUNTER, L.C., 1973, Pay, Productivity and Collective Bargaining, Macmillan, London
- McKINNON, B., 1978, "Conferences", Chief Executive, (U.K.), September, p.47
- McQUAIL, D., 1969, Towards a Sociology of Mass Communications, Collier Macmillan, London

- MACHIN, J.L.J., 1979, "A Contingent Methodology for Management Control", Journal of Management Studies, February, 16, 1, p.1-29
- MACHIN, J.L.H. and TAI, C.H.S., 1979, "Senior Managers Audit their own communication", Mimeo, Durham University Business School
- MANAGEMENT SERVICES IN GOVERNMENT, 1977, "Management Consultants in Government" Management Services, February, 32, 1, p.49-51
- MANAGEMENT TODAY, 1976, B.I.M.'s New Initiative, Management Today, July, p.79
- MANASIAN, D., 1979, "The Real Beer Battle", Management Today, October, p.80-85
- MANN, M., 1974, "The Role of Books in Higher Education: A Select Annotated Bibliography", University of Sheffield
- MANNHEIM, K., 1936, Ideology and Utopia, RKP, London
- MANNHEIM, K., 1963, "American Sociology", in Stein, M. and Vidich, A., Sociology on Trial, Prentice Hall, Englewood Cliffs
- MANPOWER AND EMPLOYMENT IN BRITAIN, 1978, Industrial Training, Central Office of Information, H.M.S.O.
- MANPOWER SERVICES COMMISSION, 1978, Annual Report 1977-1978, M.SC., London
- MANSFIELD, E., 1961, "Technical Change and the Rate of Imitation", Econometrics, October, 29, 4, p.741-766
- MANSFIELD, E., 1963, "The Speed of Response of Firms to New Techniques", Quarterly Journal of Economics, 77, p.290-311
- MANSTEAD, S.K., 1967, "Management training at Ashridge Management College", Management Decision, Autumn
- MANT, A.D., 1975, "An open-systems model of business school activity", S.S.R.C., London
- MARCEAU, J. THOMAS, A.B. and WHITLEY, R., 1978, "Business and the State: Management Education and Business Elites in France and Great Britain", in Littlejohn, G. et al (ed), Power and the State, B.S.A.

- MARCUSE, H., 1972, One-dimensional Man , Sphere Books, London
- MARGLIN, S.A., 1974, "What Do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production", The Review of Radical Political Economics, Summer, p.33-60
- MARKHAM, J.W., 1965, "Market Structure, Business Conduct and Innovation", American Economic Review: Papers and Proceedings, 55, p.323-332
- MARSH, A., 1979, Concise Encyclopedia of Industrial Relations , Gower Press, Farnborough
- MARTILLA, J.A., 1971, "Word-of-mouth communication in the industrial adoption process", Journal of Marketing Research, May, 8, p.173-178
- MARTIN, D., 1969, Anarchy and Culture: the problem of the contemporary university , RKP, London
- MARTIN, J.E. 1975, "Influence of the behavioural sciences on management literature", Personnel Journal, March, 54, p.150-153 (US)
- MARTINS, H., 1972, "The Kuhnian Revolution and its implications for Sociology", in S. Rokkan et al (eds), Imagination and Precision in the Social Sciences , p.13-58, Faber, London
- MASON, R.G., 1964, "The Use of Information Sources in the Process of Adoption", Rural Sociology, 29, p.40-52
- MASSARIK, F. and BROWN, P., 1954, "Social Research Faces Industry", Personnel, New York, May, Vol. 30, pt. 6, p.454-462
- MAYO, E., 1975, The Social Problems of an Industrial Civilization , RKP, London
- MAYO, E. and LOMBARD, G.F.F., 1944, "Teamwork and Labor Turnover in the Aircraft Industry of Southern California", Harvard University
- MEADOWS, I.S.G , 1974, "Organic Structure and Innovation in Business Organisations", Ph.D. Thesis, London Graduate School of Business Studies
- MELROSE-WOODMAN, J., 1978, "Profile of the British Manager", BIM, (Management Survey Report No. 38)
- MENZEL, H., 1957, "Public and Private Conformity under different conditions of acceptance in the group", Journal of Abnormal and Social Psychology, 55, p.398-402

- MEPHAM, J., 1972, "The Theory of Ideology in 'Capital'", Radical Philosophy, Vol. 2, Summer, p.12-19
- MERTON, R.K., 1968, "The Matthew Effect in Science", Science, 5 January, Vol. 159, p.56-63
- MERTON, R.K., 1957, "Social Theory and Social Structure", Free Press/Collier Macmillan London
- MERTON, R.K. and KENDALL, P.L., 1945-46, "The Focussed Interview", American Journal of Sociology, 51, p.541-557
- MERTON, R.K. and LERNER, D., 1951, "Social Scientists and Research Policy", in D. Lerner and H.D. Lasswell (eds), The Policy Sciences, Stanford University Press, Stanford, California
- MEURLE-BELFRAGE, K., 1970, "'Trends of research sponsorship in American Sociology Journals' A Critique and a Reply", /BY A. Biderman/ Social Science Information, 9, (2), p.35-41
- MEYERSON, R. and KATZ, E., 1957, "Notes on a Natural History of Fads", American Journal of Sociology, May, LXII, 6, p.594-601
- MILES, K.B. (ed), 1964, Innovation in Education, Teachers College Press, Teachers College, Columbia University, New York
- MILIBAND, R., 1962, C. Wright Mills, New Left Review, Vol. 15, May/June p.15-20
- MILIBAND, R., 1973, The State in Capitalist Society, Quartet Books, London
- MILLARD, P., 1966, "Trade associations and professional bodies of the U.K.", Oxford, Pergamon Press
- MILLER, E.J., 1959, "Technology, Territory and Time", Human Relations, 22, p.243-272
- MILLER, E.J., 1975, "Socio-Technial Systems in Weaving 1953-1970: A Follow-up Study", Human Relations, 28, 4, p.249-286
- MILLER, E.J., 1976, "The Open-System Approach to Organizational Analysis with Specific Reference to the work of A.K. Rice", in G. Hofstede and M.S. Kossan, 'European Contributions to Organization Theory', Van Gorcum, Assen

- MILLER, E.J. and RICE, A.K., 1967, "Systems of Organisation", Tavistock, London
- MILLS, C.W., 1940, "Methodological Consequences of the Sociology of Knowledge", American Journal of Sociology, November, Vol. 46, pt 3, p.316-330
- MILLS, C.W., 1946, "What Research Can Do For Labor", Labor and Nation, Vol. 2, June-July, p.17-20
- MILLS, C.W., 1949, The Contribution of Sociology to Studies of Industrial Relations, Proceedings of the First Annual Meeting of Industrial Relations Research Association, 29-30 December, Cleveland, Ohio
- MILLS, C.W., 1963, "The Professional Ideology of Social Pathologists", in Horowitz, I.L. (ed), Power, Politics and People, O.U.P., New York
- MILLS, C. WRIGHT, 1970, The Sociological Imagination, Penguin, Harmondsworth, Middlesex
- MONOPOLIES COMMISSION, THE, 1969, "Beer: A Report on the Supply of Beer", H.M.S.O., London,
- MOORE, P.G., 1977, "A Statistical Glimpse of LBS Masters Students", London Business School Journal, Summer, p.33-35
- MOORE, R., 1977, "Work Organisation: A Trade Union Perspective", A Paper commissioned by the S.S.R.C. (M.I.R.C.) Work Organisation Working Party, November
- MOORE, R., 1978, "Sociologists Not at Work - Institutionalized Inability: A Case of Research Funding", in G. Littlejohn et al (eds), "Power and the State", B.S.A.
- MOORE, W., 1947, "Current Issues in Industrial Sociology", American Sociological Review, Vol. 12, p.651-657
- MOSCOW, D., 1970, The Transfer of Training from T-group courses in Human Relations to the Job Situation, University of Leeds, Ph.D. Thesis,
- MOSSON, T.M., 1972, "Business Schools in Britain", Management Education and Development, May, p.74-78
- MUMFORD, E., 1972, Job Satisfaction: a study of computer specialists, Longman, London
- MURPHY, D., 1976, The Silent Watchdog: the press in local politics, Constable, London

MYERS, M.S., 1970, Every Employee a Manager , McGraw Hill

MYRDAL, G., 1958, Value in Social Theory , RKP, London

NATIONAL ECONOMIC DEVELOPMENT OFFICE, 1968, "Production Planning and Control",
A report on the Mechanical Engineering Economic Development Committee
Conference: 9 June 1966, H.M.S.O., London

NATIONAL SCIENCE FOUNDATION (USA), 1969, "Knowledge into Action: Improving
the Nation's Use of the Social Sciences", Report of the Special Commission
on the Social Sciences of the National Science Board, U.S. Government
Printing Office, Washington

NATURE - EDITORIAL, 1960, "Human Problems of Innovation in Industry", Nature,
7 May, Vol. 186, No. 4723, p.419-420

NELSON, J. 1977, "Professional Bodies and Regional Management Centres",
Management Services (U.K.), July, p.44-46

NETTL, J.P., 1971, "Consensus or Elite Domination: The Case of Business", in
F.G. Castles et al (eds), "Decisions, Organisations and Society",
Penguin, Harmondsworth, Middlesex

NICHOLS, T., 1969, Ownership, Control and Ideology , Allen and Unwin

NICOLAUS, M., 1969, "The Professional Organisation of Sociology: A View from
Below", The Antioch Review, Fall, 29, p375-387

NICOLAUS, M., 1972, 'Sociology Liberation Movement', in T. Pateman (ed),
Countercourse, Penguin, Harmondsworth

NIVEN, M.M., 1967, Personnel Management 1913-1963, Institute of Personnel
Management, London

NORD, W.R., 1974, "The Failure of Current Applied Behavioural Science: A
Marxian Perspective", Journal of Applied Behavioural Science, 10,
p557-578

NORTH EAST TRADE UNION STUDIES INFORMATION UNIT, 1980, "Scottish and
Newcastle Breweries Ltd.", T.U.S.I.U., Newcastle, January

OFFE, C., 1970, Industry and Inequality , Edward Arnold, London

OPEN UNIVERSITY, 1976, People and Work: Media Booklet 4, Open University Press

O.E.C.D., 1966, "The Social Sciences and the Policies of Governments",
O.E.C.D., Paris, January

O.E.C.D., 1962, "Register of research in the human sciences applied to problems
of work and directory of relevant research institutions", O.E.C.D.,
Paris

ORLANS, H., 1969, "Ethical Problems in the Relations of Research Sponsors and
Investigators", in G. Sjöberg (ed), 'Ethics, Politics and Social Research',
RKP, London

ORLANS, H., 1976, "The Advocacy of social science in Europe and America",
Minerva, Spring, 14 p.6-32

OROMANER, M.J., 1968, "The Most Cited Sociologists", American Sociologist , May,
3, 2, p.124-126

OROMANER, M.J., "Comparison of influentials in contemporary American and British
sociology: a study in the internationalization of sociology", British
Journal of Sociology, 21, p.324-332

PAHL, R.E., 1977, "Playing the Rationality Game: The Sociologist as a Hired
Expert", in C. Bell and H. Newby, 'Doing Sociological Research', Allen
and Unwin, London

PAISLEY, W.J. and PARKER, E.B., 1967, "Scientific information exchange at an
interdisciplinary behavioural science convention", Stanford University,
Institute for Communication Research

PALM, G., 1977, The Flight From Work , C.U.P., Cambridge

P.A. MANAGEMENT CONSULTANTS, 1970, Company Organization: Theory and Practice ,
Allen and Unwin, London

PARKER, E.B. PAISLEY, W.J. and GARRETT, R., 1967, "Bibliographic Citations as
Unobtrusive Measures of Scientific Communication", Institute for
Communication Research, Stanford University, October

PARKER, R.C., 1978, "How managements innovate", Management Today, September, p.43

PARKER, S.R., 1964, "Work Satisfaction: A Review of the Literature",
Government Social Survey Paper, M115

- PARKINSON, S.T., 1975, "The Role of Information in the Diffusion of Industrial Innovation", University of Strathclyde, Department of Marketing, Occasional Paper, Glasgow, Mimeo
- PARSONS, T., 1938, "The Role of Theory in Social Research", American Sociological Review, Vol. 3, February, p.13-20
- PATEMAN, T. (ed), 1972, Countercourse, Penguin, Harmondsworth
- PATERSON, T.T., 1960, Glasgow Limited, C.U.P., Cambridge
- PAWLEY, M., 1969, "Building for Business at Oxford", Design, (U.K.), August, p.24
- PERROW, C., 1970, "Departmental Power and Perspectives in Industrial Firms", in M.N. Zald (ed), "Power in Organizations" Vanderbilt University Press, Nashville, Tennessee
- PERRY, N., 1974, "Social science research workers and organisations in the United Kingdom", SSRC Newsletter, 25, October-November, p.15-18
- PETTIGREW, A.M., 1973, The Politics of Organizational Decision-Making, Tavistock, London
- PIGNON, D. and QUERZOLA, J., 1976, "Dictatorship and Democracy in Production", (p.63-99), in A. Gorz (ed), The Division of Labour, Harvester Press, Hassocks, Sussex
- PIOTET, F., 1975, Anact and Ideas' Dissemination, Mimeo, February, European Association of National Productivity
- PLATT, J., 1976A, Realities of Social Research: An Empirical Study of British Sociologists, Sussex University Press
- PLATT, J., 1976B, "The Social Organisation of Social Research and its Consequences" in E. Crawford and S. Rokkan (eds), Sociological Praxis, Sage, London
- POLITICAL AND ECONOMIC PLANNING, 1966, Attitudes in British Management, Penguin, Harmondsworth
- POPPER, K.R., 1974, Conjectures and Refutations, RKP, London
- POULANTZAS, N., 1971, 'Political Ideology and Scientific Research', in L. Dencik (ed), Scientific Research and Politics, Studentlitteratur, Lund, Sweden

- PRICE, D.J. de Solla, 1965, The Scientific Foundations of Science Policy, Nature, 17 April, Vol. 206, No. 4981, p.233-238
- PUGH, D., 1976, 'Going Longitudinal' in Brown, C. et al, (eds), The Access Casebook, Teknisk Hogskolitteratur, i Stockholm AB
- PUGH, D. and HICKSON, 1976, "Organisational Structure Extensions and Replications: The Aston Programme II", Saxon House, Farnborough, Hants.
- PUGH, D.S., MANSFIELD, R. and WARNER, M., 1975, Research in Organisational Behaviour: A British Survey, SSRC Review, Heinemann, London
- PUGH, D.S. and PAYNE, R.L. (eds), 1971, Organizational Behaviour in its Context, (The Aston Programme III), Saxon House, Farnborough
- PYM, D., 1977, "Line managers and other people", Mimeo
- QVALE, T.U., 1973, Job Redesign in the U.K., Work Research Institute, Oslo
- RAMSAY, H., 1976, "Cycles of Control (a political economy of workers' participation in management in Britain since the nineteenth century)", Paper given to the Political Economy Group, University of Durham
- RAMSTROM, D., 1976, "The Use of Modern Organization Theory as a Tool for Planning in Business and Public Administration", in G. Hofstede and M.S. Kassen (eds), European Contributions to Organisation Theory, Van Gorcum, Assen
- RATHKEY, P. (undated), "Job Satisfaction and the Humanisation of Work: The Role of Trade Unionism in Improving the Quality of Working Life", Jim Conway Memorial Foundation, Stockton-on-Tees
- RECORD, J.C., 1969, "The Research Institute and the Pressure Group", in G. Sjoberg (ed), Ethics, Politics and Social Research, RKP, London
- REGIONAL ADVISORY COUNCILS FOR FURTHER EDUCATION, 1978/79, "A Compendium of Advanced Courses in Colleges of Further and Higher Education", London and Home Counties Regional Advisory Council for Technological Education, London
- REID, J.G., 1968, "Management services -innovators or helpers?", Work Study and Management Services, December, p.732-738
- REPORT OF THE TASK FORCE ON INTERNATIONAL AND NATIONAL DIFFUSION, 1975, in L.E. Davis and A.B. Cherns, The Quality of Working Life, Vol. II, Free Press, New York

- REVANS, R., 1976, "Management Education: time for a rethink", Personnel Management, July, p.20-24
- REX, J.A., 1970, The Spread of the Pathology of Natural Science to the Social Sciences, The Sociological Review Monograph No. 16, The Sociology of Sociology, September, University of Keele
- REYNOLDS, L.T. and REYNOLDS, J.M. (eds), 1970, The Sociology of Sociology, David McKay Co. Inc., New York
- REYNOLDS, M. and RACKHAM, J., 1972, "Aiming for relevance in management courses", Personnel Management, February, 4, p.23-25
- RICE, A.K., 1958, Productivity and Social Organisation: the Ahmedabad Experiment, Tavistock, London
- RICE, A.K., 1963, The Enterprise and the Environment, Tavistock, London
- RIECKEN, H.W., 1967, "Government-Science Relations", American Psychologist, 22, p.211-218
- RINES, M., 1976, "The Conference Game", Management Today, November, p.113+
- RIVETT, P., 1971, "The Academic Consultant", Management Today, September
- ROBERTS, I., 1969, "Putting Research to Good Use", Nursing Mirror and Midwives Journal, March
- ROBINSON, T., 1973, "Unsolved problems for the innovation investigators", Business Administration (U.K.), January, p.93
- ROBINSON, W.S., 1951, The Logical Structure of Analytic Induction, American Sociological Review, 16, p.812-818
- ROCHE, S. and WATERSTON, J., 1972, "Coverdale Training: Building on Ability", Training and Development Journal, February
- ROETHLISBERGER, F.J. and DICKSON, W.J., 1939, Management and the Worker, Harvard University Press, Cambridge, Mass.
- ROGERS, E.M. (with SHOEMAKER, F.F.), 1971, Communication of Innovations, The Free Press, New York (2nd Edition)

- ROGERS, E.M. and BEAL, G.M., 1957, "The Importance of Personal Influence in the adoption of technological changes", Social Forces, May, 36, p.329-335
- ROMEO, A.A., 1975, "Interindustry and interfirm differences in the rate of diffusion of an innovation", Review of Economics and Statistics (Neths.) August, 57, p.311-319
- ROSE, H.B., 1970, "Management Education in the 1970s", H.M.S.O., London
- ROSE, M., 1977, Service of Power and Sociology in Modern France: The Case of Sociologie du Travail, Paper presented to the Annual Conference of the B.S.A., Sheffield
- ROSE, M., 1978, Servants of Post-Industrial Power?, Macmillan, London
- ROSENBERG, B and WHITE, D. (eds), 1957, Mass Culture and the Popular Arts in America, Free Press, New York
- ROSENBERG, B et al (eds), 1964, Mass Society in Crisis, Macmillan, New York
- ROTH, J.A., 1966, "Hired hand Research", The American Sociologist, August, Vol. 1, Part 4, p.190-196
- ROY, D., 1952, "Quota Restriction and Goldbricking in a Machine Shop", American Journal of Sociology, 57, March
- RYAN, B. and GROSS, N.C., 1943, 'The Diffusion of Hybrid Seed Corn in Two Iowa Communities', Rural Sociology, 8, March, p.15-24
- RYAN, W.G., 1977, 'Management practice and research - poles apart', Business Horizons, June 20, p.23-29
- SADLER, P., 1970, 'Sociological Aspects of Skill', British Journal of Industrial Relations, 8, 1, p.23-31
- SAHLINS, M., 1967, "The Established Order: Do Not Fold, Spindle, or Mutilate", in Horowitz, I.L., (ed), The Rise and Fall of Project Camelot, M.I.T. Press, Cambridge, Mass
- SCAPERLANDA, A., 1977, "Hansen's secular stagnation thesis once again", Journal of Economic Issues, June, 11, p.223-243/261-264

- SCHMIDT, G., 1976, "Max Weber and modern industrial sociology...", Sociological Analysis and Theory, February, 6 (1), p.47-73
- SCHNEIDER, E.V., 1957, "Areas of Research in Industrial Sociology", Sociology and Social Research, Vol. 42, No. 6, p.451-455
- SCHON, D.A., 1971, Beyond the Stable State, Temple Smith, London
- S.R.C., 1965, Investigations supported by the Human Sciences Committee, September-October, Issue No. 10,
- SCOTT, J., 1979, Corporations, Classes and Capitalism, Hutchinson, London
- SCOTT, W.H., 1959, "The Aims of Industrial Sociology - some reflections", British Journal of Sociology, Vol. 10, p.193-203
- SEEAR, N., 1962, "Industrial Research in Britain", in A.T. Welford et al (eds), Society: Problems and Methods of Study, RKP, London
- SEGAL, A. (ed), 1978 "Which Degree 1978 - The Complete Guide to First Degree Courses", Haymarket Publishing Ltd.
- SHARPE, L.J., 1975, "The Social Scientist and Policy Making; Some Cautionary Thoughts and Transatlantic Reflections", Policy and Politics, December 4, 2, p.7-34
- SHAW, M., 1972, "The Coming Crisis of Radical Sociology", in R. Blackburn (ed), Ideology in Social Science, Fontana, (London)
- SHAW, M., 1975, Marxism and Social Science, Pluto Press, London
- SHAWYER, A.J., 1970, "Diffusion: an Appraisal", Ph.D. Thesis, University of Nottingham
- SHILS, E., 1968, "The Profession of Science", Advancement of Science, June, 24, 122, p.469-480
- SHIPMAN, M., (ed), 1976, The Organisation and Impact of Social Research, RKP, London
- SIBBALD, A., 1978, "A Case of Education", Management Today, July, p.19 and 22
- SIDNEY, E., 1968, "The Industrial Society 1918-1968", The Industrial Society, London

- SILLS, D., 1958, International Encyclopedia of the Social Sciences, Macmillan and the Free Press
- SILVERMAN, D., 1970, The Theory of Organisations, Heinemann, London
- SILVERT, K.H., 1967, in Horowitz, I.L. (ed), The Rise and Fall of Project Camelot, M.I.T. Press, Cambridge, Mass
- SIMMEL, G., 1957, "Fashion", American Journal of Sociology, May, LXII, 6, p.541-553
- SIMON, J.L. and GOLEMBO, L., 1967, "The Spread of a Cost-Free Business Innovation", Journal of Business, Vol. 40, p.385-388
- SIMON, R.J., 1969, "A Comment on Sociological Research and Interest in Britain and the United States", Sociological Review, 17 N.S., No. 1, p.5-10
- SIMPSON, R.L. 1959, "Vertical and Horizontal Communication in Formal Organizations", Administrative Science Quarterly, 4, p.188-196
- SINCLAIR, R., 1968-70, Bibliography of Social Science Policy, Centre for Utilization of Social Science Research, University of Technology, Loughborough, (Vols. 1 - 111), (mimeographed)
- SINGER, E., 1980, "Industrial Training and the Future of the Boards", Personnel Management, January, 12, 1, (p.30-32 and 42)
- SJOBERG, G. (ed), 1969, Ethics, Politics and Social Research, RKP, London
- SMITH, J.H., 1961A, The University Teaching of Social Sciences: Industrial Sociology, UNESCO, Paris
- SMITH, J.H., 1961B, "Management and the Universities", The Listener, 20 July, p.89-90
- SMITH, P.E., 1969, "An Assessment of the Image of Sociology", University of Washington Journal of Sociology, March, 1, p.28-36
- SOCIAL SCIENCE RESEARCH COUNCIL, 1967+, Newsletters, SSRC, London
- SOCIAL SCIENCE RESEARCH COUNCIL, 1971, "Perspectives on the SSRC", SSRC Newsletter 11, March, p.3-4
- SOCIAL SCIENCE RESEARCH COUNCIL, 1971, Working Group Reports, Papers from Annual Conference, SSRC Newsletter Special, October

- SOCIAL SCIENCE RESEARCH COUNCIL, (undated), "Research and relation with research consumers in the management and industrial relations field", MIRC
- SOCIAL SCIENCE RESEARCH COUNCIL, 1978, "Studentship Handbook", SSRC, London
- SOCIAL SCIENCE RESEARCH COUNCIL, 1978, "Research Needs in Work Organisation", Working Party Report to the M.I.R.C. of the SSRC, July
- SOCIAL SCIENCE RESEARCH COUNCIL, (undated), "Guidelines to Applicants for Research Grants in Sociology and Social Administration", SSRC, London
- SOFER, C., 1961, The Organisation from Within , Tavistock, London
- SOROKIN, P.A., 1956, Fads and Foibles in Modern Sociology, Henry Regnery Co., Chicago
- SPENCER, J., 1976, "Business information in London: a study of the demand and supply of business information in 13 London business Libraries", Aslib, London
- SPOONER, P., 1975, "Consultants - really good for business?", Business Administration, April, p.29-30
- SRIVASTRA, S. et al, 1975, Job Satisfaction and Productivity , Case Western Reserve University Press, Cleveland
- STACEY, M., 1960, Tradition and Change , O.U.P.
- STALLINGS, W.A. and SINGHAL, S., 1969, Some Observations on the relationship between research productivity and student evaluations of courses and teaching, Office of Instructional Resources, University of Illinois, Urbana, February
- STANSFIELD, R.G., 1969, "The Unnoticed Application of the Results of Research", Paper to Section N of the British Association for the Advancement of Science meeting at Leeds, 1967, Reprint by the City University, London in October
- STARR, P.D., 1977, "Social Science for Sale", New Society, 29 September, p.652-654
- STEIN, M., and VIDICH, A. (eds), 1963, Sociology on Trial, Prentice Hall, Englewood Cliffs, New Jersey

- STEWART, R., 1967, Managers and Their Jobs , Macmillan, London
- STEWART, R., 1976, Contrasts in Management , McGraw Hill
- STIEHLER, H., 1976, "European Doctoral Theses in Management Bibliography", Vol. 1, European Institute for Advanced Studies in Management, Brussels, June
- STOKES, R., 1971, "A Company Fit to Live in", Personnel Management, August, 3, p.33-35
- STONE, P., 1970, "Scots Universities are Serious about industrial cooperation", Industry Week, 30 January, p.4
- SUMNER, W.G., 1907, Folkways , Ginn & Co., Boston
- SWAN, P.L., 1973, "International diffusion of an innovation", Journal of Industrial Economics, September, 22, p.61-69
- SWINGWOOD, A., 1975, Marx and Modern Social Theory, Macmillan, London
- SYKES, A.J.M., 1960, "Unity and Restrictive Practices in the British Printing Industry", Sociological Review, 8, p.239-254
- SYKES, A.J.M., 1967, "The Cohesion of a Trade Union Workshop Organisation", Sociology, 1, 2, May, p.141-163
- TARDE, G., 1962, The Laws of Imitation, Gloucester, Mass
- TAVISTOCK INSTITUTE OF HUMAN RELATIONS, 1972, Annual Reports 1972-73 to 1977-78
- TAYLOR, J.W., 1977, "Striking Characteristics of Innovators", Journal of Marketing Research, February, 14, p.104-107
- TAYLOR, LYNDA KING, 1979, "Can you succeed in heavenly pursuits and still stay in business?", IBM - "Management Topics", Issue No. 3, January
- TAYLOR, W.L., 1957, "Guaging the Mental Health Content of the Mass Media", Journalism Quarterly, 34, p.191-201
- TEGA, V., 1968, "Journal evaluation, selection and ranking: a review in Business and Economics", Paper presented at the tenth Meeting of the European Business School Librarians Group, Essec, Cergy, 28-30 June

- THOMPSON, G., 1970, "The New Business Library", Library World, June, 71 (840), p.364-368
- THOMPSON, E.P. (ed), 1970, Warwick University Ltd., Penguin, Harmondsworth
- THOMPSON, J.D., 1970, "Power as Energy or Power as a Reflection of Things?", in M.N. Zald (ed), Power in Organisations, Vanderbilt University Press, Tennessee
- THOMPSON, K. and TUNSTALL, J., 1971, Sociological Perspectives, Penguin, Harmondsworth
- TIMES BOOKS, 1979, "The Times 1000 1979/80", Times Books, London
- TOPALIAN, A., 1976, "Selling the Business Schools", Director, August, 29, p.18+
- TRADES UNION CONGRESS, 1960+, Reports 1960-1977
- T.U.S.I.U., 1977, 'Brief History of the Work of the TUSIU over the last 2 years', 27 November, Mimeo
- TRAINING SERVICES DIVISION, M.S.C., 1978, 'Management Development: Policy and Activities of the Manpower Services Commission', Manpower Services Commission, London, June
- TRICKER, R., 1978, "Oxford Circus: A Challenge to British Directors", The Director, June p.20 and 25
- TRIST, E., 1970, "Social Research Institutions: Types, Structures and Scale", International Social Science Journal, 22, 2, p.301-326
- TRIST, E., 1976, Foreword to G.I. Susman's Autonomy at Work, Praeger, New York
- TRIST, E.L. and BAMFORTH, K.W., 1951, "Some Social and Psychological Consequences of the Longwall Method of Coal-Getting", Human Relations, 4, p.3-38
- TUCKER, T., 1977, "The Council Weekend Seminar", Director, July, 30, p.52
- TUGENDHAT, C., 1973, The Multinationals, Penguin, Harmondsworth
- TUMIN, M.N., 1968, 'Some Social Consequences of Research on Racial Relations', American Sociologist, May, 3, 2, p.117-123

TUNSTALL, J., 1971, Journalists at Work , Constable, London

ULRICH'S, 1979, Ulrich's International Periodicals Directory , 18th edition,
R.R. Bowker Co., New York

UNIVERSITY OF BRADFORD MANAGEMENT CENTRE, 1970, 'Post-graduate school
1969-1970'

VERNON, K.D.C., 1975A, Use of Management and Business Literature ,
Butterworths, London

VERNON, K.D.C., 1975B, 'Management Literature', in M.J. Campbell, 'Manual
of Business Library Practice', London

VERNON, K.D.C., 1977, "Use of management and business literature", Management
International Review, 17, 1, p.117

VROOM, V.H., 1964. Work and Motivation , Wiley and Sons Inc., New York

WADIA, M.S., 1968, Management and the Behavioural Sciences , Allyn and
Bacon Inc., Boston

WAGNER, I., 1973, "The Information Function of a Political Library", Inspel,
February, 8 (1), p.2-9

WALKER, P., 1971, "A novel academic showpiece in deepest Chrysler country",
Times Higher Educational Supplement, 23 January

WALLENBURG, D. et al. 1979, "New forms of work organisation and the quality of
the workplace - a Dutch trade union view", Labour and Society, April,
4, 2, p.143-168

WALTERS, R., 1976, "Role of the polytechnics", Accountancy, November, 87,
p.108+

WALTON, J., 1970, "Report on the London Business School", Business Administration,
January, p.49

WALTON, R.E., 1975, "Why success didn't take", Organizational Dynamics,
Winter, p.3

WARNER, M. (ed), 1973, The Sociology of the workplace: an interdisciplinary
approach, Allen and Unwin, London

- WATSON, T.J., 1977, The Personnel Managers , RKP, London
- WATSON, T.J., 1979, "Industrial Sociology: Theory, Research and Teaching- Some Problems and Proposals", Journal of Management Studies, May, 16, 2, p.117-138
- WELFORD, A.T. et al, (eds), 1962, Society: Problems and Methods of Study, RKP, London
- WESTOBY, A. WEBSTER, D. WILLIAMS, G., 1976, Social Scientists at Work , Society for Research into Higher Education Ltd., University of Surrey, April
- WESTON, R., 1972, 'Management Education and Research - a survey of comments and issues', Centre for Business Research Review, Summer, p.8-11
- WHEATCROFT, M., 1970, The Revolution in British Management Education , Pitman, London
- WHELAN, B.J., 1971, "The Business Teacher as a Consultant to Industry", Management (Eire), February, p.11
- WHITE, B.J., 1975, "Union Response to the Humanization of Work: An Exploratory Proposition", Human Resource Management, Fall, p.2-9
- WHITE, B.J., 1977, "Innovations in job design - union perspective", Journal of Contemporary Business, 6, 2, p.23-35
- WHITE, G.C., 1979, "Job Satisfaction and Motivation - The Development of Practical Strategies for their enhancement", Paper to International Conference on 'Changes in the Nature and Quality of Working Life', Thessaloniki, Greece, August
- WHITE, G.C. and JESSUP, G., 1979, Quality of Working Life: The Development of the United Kingdom Programme , WRU Occasional Paper No. 14, London, February
- WHITLEY, R., 1970A, "The Operation of Science Journals: Two Case Studies in British Social Science", Sociological Review, 18, July, p.241-258
- WHITLEY, R.D., 1970B, "A Study of the Organisation of British Social Science Journals", Sociological Review Monograph No. 16, The Sociology of Sociology, September, p.163-179, University of Keele
- WHYTE, W.F., 1955, Money and Motivation , Harper and Row, New York

- WIGHAM, E., 1976, "Are unions doing enough to educate their officials?", The Times, September, Tuesday, 21, p.19
- WILENSY, H.L., 1957, 'Human Relations in the workplace: An Appraisal of some Recent Research', in Arensberg, C.M. et al, (eds), Research in Industrial Human Relations, Harper, New York
- WILENSKY, H.L., 1967, Organisational Intelligence, Basic Books, New York
- WILENSKY, J.L. and WILENSKY, H.L., 1951/2, "Personnel Counselling: the Hawthorne Case", American Journal of Sociology, Vol. LVII, p.265-280
- WILKENING, E.A , 1956, "Roles of Communicating Agents in Technological Change in Agriculture", Social Forces, May, 34, p.361-367
- WILKINSON, A., 1970, A Survey of Some Western European Experiments in Motivation, The Institute of Work Study Practitioners, Enfield, Middlesex
- WILKINSON, A., 1971, Information for managers , Pitman Publishing, London
- WILLHEIM, S.M., 1970, "Elites, Scholars and Sociologists", in L.T. and J.M. Reynolds (eds), The Sociology of Sociology, David McKay Co. Inc., New York
- WILLIG, J.C., 1970, "Business School Graduates", (1), European Business, Autumn, p.21
- WILLIG, J.C., 1971, "Business School Graduates", European Business, Autumn, p.20
- WILSON, A.T.M., MITCHELL, J. and CHERNS, A. (eds), 1971, Social Science Research and Industry, Harrap, London
- WILSON, H.W., 1966-1979, Business Periodicals Index, H.W. Wilson Co., New York
- WILSON, M.J., 1970, "Applied Sociology in Industry", Paper given to SSRC York Conference, Derwent College, July
- WILSON, N.A.B., 1973, "On the quality of working life", DE, Manpower Paper No. 7, London, H.M.S.O.
- WILSON, R.S. (ed), 1966-1977, Public Affairs Information Service Bulletin, P.A.I.S. Inc., New York

- WINPISINGER, W., 1973, "Job Satisfaction: A Union Response", AFL-CIO American Federationist, February, p.8-10
- WITTINGSLOW, G.E., 1978, "Diffusion of the concept of Industrial Democracy in Britain", Ph.D. Thesis, Loughborough University of Technology
- WOOD, D.N. and BOWER, C.A., 1969, "The Use of Social Science Periodical Literature", Journal of Documentation, 25, p.108-122
- WOOD, G.L., 1962, "A Scientific Convention as Source of Popular Information", in E. Katz, et al, 'Studies of Innovation and of Communication to the Public', Stanford, California, (p.227-243)
- WOODRUFFE, C.W.E., 1974, "A Model of the Process Leading to Attempts to Utilize Behavioural Science Concepts in Organisations", M.Phil. Thesis, Graduate Business Centre, The City University, London, February
- WORK RESEARCH UNIT, (undated), Research Register
- XHIGNESSE, L.V. and OSGOOD, C.E., 1967, Bibliographical Citation Characteristics of the Psychological Journal Network in 1950 and in 1960, American Psychologist, 22, p.778-791
- ZALD, M.N. (ed), 1970, Power in Organisations, Vanderbilt University Press, Nashville, Tennessee
- ZEITLIN, I.M., 1968, Ideology and the Development of Sociological Theory, Prentice Hall, Englewood Cliffs, New Jersey
- ZETTERBERG, H.L., 1964, The Practical Use of Sociological Knowledge, Acta Sociologica, Vol. 1, Part 2, p.57-72
- ZIMAN, J., 1968, 'Public Knowledge: a social dimension of science', C.U.P., Cambridge
- ZIMBALIST, A., 1975, "The Limits of Work Humanization", Review of Radical Political Economics, Summer, 7, 5, p.50-59
- ZINKIN, M., 1969, "Research for the businessman", SSRC Newsletter, 6 June, p.14-15

