

THE ASSEMBLY-LINE AND ALIENATION:
A PARTICIPANT-OBSERVER STUDY IN THE
MEAT-FREEZING INDUSTRY

KERR INKSON and DAVID SIMPSON

University of Otago

Assembly-line technology can create an alienating environment in which the worker feels powerless, has higher-order needs unfulfilled, and reacts in accordance with a frustration-aggression model. The N.Z. meat-freezing industry exhibits many potentially alienating characteristics, particularly a paced, segmented workflow. The alienation hypothesis and a number of theories of worker adaptation to psychological deprivation at work were examined by means of a participant-observer study of labourers and meat inspectors in a freezing works. The results suggested that alienation was only moderate, and that most workers had adapted by shaping their psychological living spaces to accord with the technology. A key factor facilitating this adaptation was the supportive style of the supervisors.

In recent years technological developments in industry and their effects on the worker have received increasing scrutiny from psychologists and sociologists. Mass-production systems have been particularly scrutinised by those interested in the effects of technology on worker satisfaction (Walker and Guest, 1952; Kornhauser, 1965). These studies have led to the development of an "alienation hypothesis" which in essence states that mass-production technology has the effect of making jobs repetitive and routine, thereby creating boredom, frustration and dissatisfaction for the worker, and leading to reactions such as externalised aggression (e.g. strikes, vandalism), internalised aggression (e.g. horseplay, rumour), and withdrawal (e.g. absenteeism, labour turnover, apathy).

The New Zealand Meat-Freezing Industry

If the alienation hypothesis is true, there could be few more likely venues in which to observe its operation than on the slaughter-boards of the New Zealand meat-freezing industry. The industry transferred relatively recently to mass-production technology. Prior to the Second World War, "solo" slaughtermen carried out the complete task of slaughtering a sheep or lamb, skinning it, and removing the head and internal organs. Nowadays an endlessly-moving "chain" carries each carcass past a line of approximately 35 individual butchers, each of whom carries out a specific set of cuts and operations. The chain moves at a constant speed, carrying perhaps 7 or 8 carcasses per minute, the speed depending on the nature of the "kill" (e.g. sheep vs. lambs). Thus each man may work on as many as 4,000 carcasses in a day.

Most works operate several chains running parallel to each other, surrounding the butchers with the technology. In addition to the monotony of assembly-line work, the industry has potentially alienating characteristics of its own—the smell of blood, offal, and viscera, bleak surroundings, and the constant danger inherent in working quickly with a sharp knife. Moreover, many workers in the industry face the additional problem of insecurity, for the work tends to be seasonal, taking place mainly in the November to May period; a high proportion of the men must find alternative employment in the “off” season.

There are some external signs that alienation may be taking place. The industry has a bad industrial relations record. The Meat Industry Commission Report (1973) showed that the industry accounts for about half the total man-hours lost per year in New Zealand through strikes, despite employing only 2.6% of the workforce. High absenteeism is prevalent in many works, and overt aggression such as fighting between workers is a frequent cause of disciplinary action by management.

Research on the causes of strikes in the industry provides insights into the applicability of the alienation hypothesis. Howells and Alexander (1968) suggested that the strike-propensity of the industry could be explained by the Kerr-Seigel hypothesis (Kerr and Seigel, 1955) that strike-prone industries are characterised by unpleasant and dangerous work done by a mass of workers isolated from the general community but with the potential for internal social cohesion. Geare (1972a) claimed that the underlying monotony of the work is the main factor underlying strikes. According to Geare the high earnings of freezing-workers helps them to tolerate monotony, but “the monotony has lost none of its sting and continues to build up resentment”. Elsewhere, Geare (1972b) has shown that loss of man-days through strikes in the industry builds up steadily through the killing season, reaching a peak in February/March when workers are likely to have reached maximum boredom and maximum cash-reserves simultaneously. With workers at “flash-point”, it requires only a minor catalyst to release the aggressive reaction—hence the large proportion of spontaneous strikes over apparently trivial matters.

Theories Concerning the Impact of Technology

According to the alienation hypothesis (Blauner, 1964), assembly-line production creates a segmented workflow, with repetitive unvarying jobs carried out at a constant pace. Discretion is removed from the worker and his social relationships are disrupted. His needs for stimulus variation, autonomy, and creative behaviour are obstructed, and the classic frustration-aggression syndrome results. His situation is characterised by powerlessness, meaninglessness, normlessness, isolation, and self-estrangement (Luthans, 1973).

These criticisms of assembly-line technology can be integrated effectively within the frameworks of "socio-technical systems" theory (Emery and Trist, 1960; Cooper and Foster, 1970), which states that an industrial context can be viewed as an open system involving both human and technological components. The technological component, according to Emery and Trist, creates an "internalised environment" which "not only sets limits on what can be done, but creates demands that must be reflected in the internal organisation and ends of an enterprise" (p. 87). Trist and Bamforth (1951) studied the effects of mechanisation on the social organisation of British coalminers. Traditionally, the men had mined in small, cohesive self-chosen groups, with strong interpersonal bonds, working in close inter-member proximity. The introduction of mechanical coal-cutting and transporting equipment necessitated the breaking up of the traditional teams and their replacement by large shifts of workers distributed over long distances. The consequences of the change were a loss of meaning in the work, experienced anomie, and low productivity.

One defence which workers have against the monotony of routinised work is the creation of an informal social structure which provides each individual with not just a source of interest, but social acceptance and a wide range of group sanctioned activities providing relief from the privations of the job itself. Gellerman (1963) noting Schachter's (1959) demonstrations that affiliative motivation is increased by psychological stress, suggested that the informal work-group is basically defensive. "It is a means of creating an artificial, miniature world in which the things which are lacking in the real world . . . are reproduced on a smaller scale. The impulse to create such a group is touched off by the sense of impotence one feels when he becomes dependent on a system that is by no means dependent on him. It is the lack of control over one's working environment which drives so many people into informal work-restricting groups" (Gellerman, 1963, p. 120).

The suggestion that psychologically-depriving work *inevitably* leads to dissatisfaction has not gone unchallenged. The alienation hypothesis is based on the assumption that industrial workers find broad, varied jobs more satisfying than narrow routine jobs. However, reviews by McKinney, Wernimont, and Galitz (1962) and Hulin (1972) showed that the objective evidence for this assumption is slender. Hulin concluded that the anti-routinisation argument chiefly reflected the bias of its proponents, whom he accused of "white middle class ethnomorphising" in which "influential individuals . . . with their years of education and their frame of reference developed in an academic environment . . . respond negatively to a routine job and make the assumption that all healthy mature workers will do the same" (p. 392).

Certainly assembly-line work seems frequently to be tolerated by supposedly alienated workers with relative equanimity. In Walker and Guest's (1952) study of automobile assembly workers, for example, it was found that most of the men, while admitting that their jobs were arduous and dull, were quite willing to accept the psychological deprivation in return for a high income. Aggression, absenteeism, and labour turnover were low.

As an alternative to the alienation hypothesis, Hulin (1972) has suggested that responses to repetitive work are subject to more individual variation than the hypothesis appears to allow for, depending on the particular worker's needs for job variety, autonomy, and skill. Hackman and Lawler (1971) have shown that job-satisfaction is related to the congruence between the individual's "higher-order" needs and the degree of variation and autonomy in the job. Hulin also pointed out that individual reactions depend on the *expectations* of the worker; if he anticipates routine repetitive work he will the more easily adapt to it.

Another view of worker response to routinised work is that of the "social action" theorists (Goldthorpe, Lockwood, Bechhofer, and Platt, 1968) who argue that attitudes to work, rather than being determined by the nature of the job, depend on "prior orientations" which workers develop in their cultural, sub-cultural, or social class settings, and bring to work with them. For example, comparisons of white-collar and blue-collar workers reveal basic differences of orientation, white-collar workers having predominantly middle class values stressing the importance of interest and achievement in the job, whereas blue-collar workers place more emphasis on extrinsic rewards such as pay and security (Morse and Weiss, 1955; Sykes, 1965).

The social action approach has been applied to workers on routine jobs by Goldthorpe and his associates (Goldthorpe, 19655; Goldthorpe, Lockwood, Bechhofer, and Platt, 1968), in a major study of the "affluent worker" in Britain. Goldthorpe's sample of affluent workers included 89 assemblers employed on the mass-production lines of Vauxhall's, a motor-car manufacturing firm in Luton, England. The study demonstrated that these workers had a predominantly "instrumental" orientation to work; that is, work was regarded by them as being instrumental in obtaining high material rewards which could be used to create a good life for the worker off the job through his increased consuming power. The work itself, the work group, the company, and the union, were all seen as affectively neutral, except insofar as they appeared to promote or threaten these instrumental goals. Dull repetitive work was expected and tolerated by the worker as part of the price he paid for his off-the-job satisfactions.

The organisation had low rates of absenteeism and turnover, and an excellent industrial relations record. Goldthorpe concluded that the relationship of these men to their work was a matter of coercive rather than moral involvement, but that the workers understood and accepted the nature of the contract, which was therefore quite healthy.

An alternative explanation of the fact that many workers achieve reasonable job-satisfactions in deprived situations is Biddle and Hutton's (1975) "tolerance theory". Tolerance theory is concerned with the individual's "living space"—"a necessary degree of psychological territory which serves to mediate and protect the individual's inner world and sense of self worth". The boundaries of the living space mark the areas of felt control by the worker over his actions at work. The key characteristic of the living space is its adaptability or tolerance; where one boundary is threatened, its total shape may be altered so that the individual's sense of self-worth takes on a different definition and may be defended along fresh boundaries. In Biddle and Hutton's study, members of a white-collar group whose work had been rationalised redefined their living space to accentuate the importance of their autonomy over complete, though routine, work-cycles. Similarly a group of manual workers on routine jobs avoided dissonance by maximising the importance attributed to wages, and minimising that attributed to intrinsic rewards. Biddle and Hutton maintained that worker attitudes are not brought into the organisation as prior orientations, but develop and adapt continuously in response to the work situation. Workers in the factory they studied were relatively homogeneous in orientation when they first took up employment—the instrumental or other orientations characteristic of particular groups developed later, after exposure to the situation.

A Participant-Observer Study

In an attempt to gain further insight into the psychological effects of work in the meat freezing industry, a participant-observer study was carried out in one works.

One of the writers, a student (Simpson), was employed as a labourer at a South Island works from November 1973 to late February 1974. During this period he gathered impressions of the nature of his work-environment and its effects on the behaviour and expressed attitudes of those around him. These impressions were written up in note form on his return to University. In his May vacation (1974) he returned to the works for a week, securing a job pushing a broom in the same area as his previous four months' work, and absenting himself frequently to a nearby room to write notes on incidents which took place. He also "chatted" to a number of the workers in the area and made notes on their comments. Apparently nothing untoward was noticed by the workers.

The study was conducted in an area of the works called the "viscera tables", commonly known as the "gut trays". These consisted of a 20-foot long set of moving conveyor-type stainless-steel trays, arranged in pairs. The stomach and intestines went into one tray, and the heart, liver, lungs, and kidneys went into another. Parallel with the conveyor, and on a higher level, was the "chain", with the carcasses moving past suspended from their hooks and the butchers tossing materials down into the trays.

The gut-tray labourers arranged materials in the trays, separated different organs, and threw materials down appropriate chutes for further processing. Also working in the same area were meat inspectors employed by the Department of Agriculture and Fisheries to ensure compliance with the Department's regulations. In the case of a breach caused by labourer's error (e.g. materials in the wrong tray, damage, unskinned kidneys), the inspector would call over a board-walker (first-line supervisor) to talk to the man involved; or, if the case was a serious one, he could stop the whole chain completely while an investigation was carried out. There was considerable job-rotation, the inspectors moving half-hourly between the viscera tables and other inspection positions, and the labourers exchanging jobs at similar intervals.

Simpson was employed as a "kidney gunner"; his job was to remove the skins from the kidneys by using a compressed-air gun. The kidneys were processed at a rate of 15 per minute, making the work very repetitive; moreover, it was a specialist job and Simpson was unable to job-rotate like the other labourers. He was however in a good position to observe the reactions of two groups—the labourers and the inspectors—to a psychologically-deprived situation.

Observations

The main evidence of alienation was the aggressive behaviour of both groups. There was much animal fat, manure, and parts of organs at hand, providing scope for any individual to make life unpleasant (though not necessarily dangerous) for others. Throwing fat at others was frequent, and encouraged retaliation in kind. One trick of the inspectors was to burst a full heart with a knife, drenching the victim in blood. However, labourers and inspectors took care to ensure no supervisors were around when indulging in overt physical aggression.

Unpleasant though these activities sound, they appeared to be a type

of sky-larking rather than an expression of deep-seated malevolence or despair. Simpson's field notes give examples.

The ticket man on the weighing machine threw fat at an inspector, apparently in fun. It hit him on the hat, causing only slight annoyance.

A labourer threw fat at an inspector. The inspector picked up some fat himself but did not see where the attack had come from. He looked around, muttering to himself.

A kidney gunner was struck on the cheek by an unskinned kidney which he had missed, and which was thrown at him by the inspector, as if to say, "keep your mind on the job".

Most of the interpersonal aggression was between labourers and inspectors, and there was much hostility between the two groups. Inspectors could, and sometimes did, stop the chain if a labourer threw anything at them. An inspector who stopped the chain for a reason thought by the butchers and labourers to be inadequate, would be subjected to much abuse, and perhaps missiles if no authority-figure was present. Inspectors sometimes appeared to use their authority to deliberately humiliate labourers, for example by applying extra-stringent standards to labourers they did not like. Simpson's field-notes contain the following remarks overheard from one inspector to another at the start of a day's work:

"Oh, hell, another bloody day. These labourers are a bloody pain. Why we're cursed with having to work with them I don't know. I mean, hell, they're just a pack of dumb buggers, they annoy me so much. I'll fix as many as I can, watch me, I'll have a good morning".

It is clear from the foregoing that relationships between labourers and inspectors were poor. There were a number of causes for this. Firstly, the two groups belonged to separate organizations with different goals. The labourers generally identified with management's goal of maintaining production. The inspectors identified with high standards of quality and hygiene, and these standards often conflicted with high throughput. Secondly, the labourers resented the apparent existence of a dual authority-structure, in which they were formally controlled by works supervisors but had their work and personal hygiene checked by inspectors from another organization, on whose say-so they could be corrected or reprimanded. Thirdly, a proportion of the inspectors were youths not long out of school, a fact which was resented by the more experienced labourers. Fourthly, each group exacerbated the situation by deliberately baiting the other. Labourers would ignore what inspectors said to them, or would deliberately continue to make errors which had been pointed out. Inspectors would emphasize their supposed higher status by "talking down" labourers or shouting instructions at them.

Although interpersonal loyalty within groups was not particularly strong, it increased significantly in the event of overt conflict with the other group. A member of either group who did something wrong would attract shouts, boos, and missiles from the other group, but usually his work-mates would back him up in the like manner. The student's field notes record the following instance:

A kidney gunner burst a heart membrane with his gun. There was a loud bang. An inspector moved up to him and said "Fucking well shut up or I'll stop the bloody chain on you." The labourer told his mates and soon the inspector was subjected to a barrage of fat and meat.

However, it is quite possible that the labourer's reaction arose less out of loyalty than out of the desire to use the excuse to let off steam.

Much time was spent in informal discussions of matters of common interest. Conversations about cars, girls, drinking, and football were most common, with much bragging taking place. Illegal raffles provided another topic of interest. In these matters, which were neutral with respect to the work-situation, interactions between labourers and inspectors were freer and more friendly. Camaraderie also increased between the two groups when some external circumstance, such as a fire-alarm or a break in the chain, put both groups "in the same boat". Most men apparently recognised the value of social interaction as a protection against the routine of work. As one labourer put it, "I've got to talk or do something to activate my mind or else I feel I'm going under . . . you know, sort of bogged down and finding it hard to think".

Alienation

How far do the data support the alienation hypothesis? Taking alienation in its classic sense—a state of subjective powerlessness, in which the devitalised worker strikes out blindly against his environment or shrinks into apathetic indifference—there was little support for the hypothesis. All in all, most of the men involved seemed content with their lot. The monotony in the situation was recognised, and the reactions were means of adaptation, mainly under conscious control. In this unpromising situation, despite a certain amount of destructive conflict between the two groups, members of both had achieved a tolerable degree of adaptation. Why?

We believe a critical factor was the generally positive nature of relationships between the labourers, their supervisors, and the company. Management was generally respected as being fair and considerate. At the gut-trays, relationships between boardwalkers and labourers were cordial. Boardwalkers adopted a style of supervision that was friendly and non-authoritarian, and left labourers to get on with the job

rather than supervising them closely. Thus, although the technology made it difficult to gain self-respect through interesting work or the use of skill, the workers gained it instead through taking full responsibility for their admittedly routine jobs, completing work to their own satisfaction, and being part of a good team, respected and trusted by their foremen.

Social Action or Tolerance?

Given that the workers were able to avoid frustration and dissatisfaction despite deprived conditions, which of the two theories, social action theory and tolerance theory, provides the best explanation? To answer this question, the orientations of the two groups of workers, their perceptions of their living space, and their beliefs about the nature of their relationships with the organisation, must be weighed.

On the surface, the labourers had a clear instrumental orientation. Most of them maintained that they had taken the job because of the high wages, which averaged about \$100 per week after deductions. Like the car assemblers studied by Goldthorpe, they accepted the monotony of their work, relieved it as far as they could through accepted modes of social interaction, and looked forward to their leisure and home-life activities. However, on its own the concept of a prior instrumental orientation is insufficient to explain the relative satisfaction of these men. There is no reason to suppose that the men in other South Island works were any less instrumental than those in the works studied—yet strike-propensity, absenteeism, accidents, and other indices of low morale vary consistently between works. In some plants workers apparently find their overall needs fulfilled; in others, frustrated. Variances can be explained by factors such as urban or rural setting, large groups of itinerant workers living in company hostels at some works, the energy and militancy of local union officials and delegates, and the characteristic managerial style of the works. These factors, as well as the technology, can push workers towards, or away from, the “flash-point” described by Geare (1972a) or can create incidents likely to set off the explosive reaction.

Thus the labourers can be better understood by looking at their total psychological living space rather than just their instrumental orientation. Their strong financial orientation was of course a major dimension of their living space. Their expectations with regard to higher-order needs were low, and not articulated; nevertheless they existed. The technology precluded meaningful work or autonomy, but self-esteem was gained from social interaction, group solidarity, and, particularly, “supportive relationships” with supervisors, i.e., relationships which “ensure a maximum probability that . . . each member will, in the light of his background, experience, and expectations, view the experience

as supportive and one which builds and maintains his sense of personal worth and importance" (Likert, 1961, p. 103). The effective adaptation of the group was due to the successful provision by management of a suitable area of tolerance compensating for the deprived nature of the job.

The inspectors were very different both in prior orientations and in mode of adaptation. They were paid less than half what the labourers earned, and though they had secure, salaried employment for the whole year it was impossible for them to maintain an instrumental orientation. Their self-esteem was derived from their potential control over other workers, their ability to bring the whole assembly-line to a halt, group-fostered self-conceptions of intellectual and status superiorities over freezing-workers, and beliefs that what they were involved in was a career, not just a job. The inspectors would talk, for example, about the opportunities freely available to them overseas through their qualifications, though there was little hard evidence that such opportunities really existed or that any of the inspectors seriously intended pursuing them. The inspectors' living space, in short, was based on their authority and superiority over others and the greater skill, security, and prospects of their jobs.

Each group took any opportunities it could find to enhance its own living space and to threaten the living space of the other. Inspectors would bait labourers about the value of their jobs and future prospects; labourers would reply with the blunt question, "How much did *you* get paid last week?" These exchanges apparently created slight uneasiness for some participants, but since they left the cores of the respective living spaces untouched, they provided no real threat.

Conclusions

Alienation theorists and socio-technical theorists have argued that the undesirable effects of assembly-line technology can, and should, be mitigated by alterations of work-patterns to remove the monotony and increase autonomy. Early theorists (Walker and Guest, 1962; Guest, 1957) suggested job-rotation (moving the worker around periodically between different jobs), and job-enlargement (giving the worker a wider span of activities, a longer cycle). Job-enrichment (Paul and Robertson, 1970; Ford, 1969)—in which the employee's job is enlarged "vertically" so that his planning and control of his own work is increased—is another approach, but one which is difficult to apply to assembly-line jobs. Autonomous work groups are small self-governing teams making their own decisions as to how work should be scheduled and allocated (Rice, 1958; Emery and Thorsrud, 1969).

Changes to these new structures must be judged against the criteria of value and practicability. At the viscera tables, the workers had

mainly adjusted to the deprivations of the work. High productivity resulted from an efficient technology combined with supportive management and supervision. On the other hand, even if monotonous work does not increase anti-social behaviour to a point where production is disrupted, there are issues of human value involved. As Handyside and Speak (1964, p. 57), put it: "It would seem unduly to strain most systems of morality . . . that people should be permitted to occupy themselves with tasks and in working conditions that are positively distasteful, in return for wages that permit enjoyment only of their leisure time". Does the freezing-worker achieve satisfaction, or only toleration?

The main limiting factor is of course practicality. Freezing companies already face considerable pressure on their space and finance due to the increasingly exacting standards of hygiene of the meat-importing countries. To restructure the technology in more than minor ways would be prohibitively expensive, and would in any case be impossible without major breaches of hygiene standards. The less radical changes of job-rotation and job-enlargement are most practicable, and were being effectively used in the area studied. But even modest innovations in this type must be preceded by some investigation of the extent to which workers *desire* change.

Many work-situations place the manager in a dilemma where efficiency is only possible at the expense of the worker satisfaction and vice versa. The costs of productivity may be met by the worker in the form of unsatisfying work; the costs of worker satisfaction may be met by the organisation in the form of lower profitability or by the consumer in the form of lower product quality and higher prices. In the situation studied, a balance of high productivity and moderate satisfaction had been achieved. Our analysis has spotlighted worker adaptability and effective man-management as major factors contributing to this success, and has suggested that, contrary to the alienation hypothesis, the worker can tolerate monotony provided he is given the opportunity to extend his living space in other directions. For management, the question raised by our analysis is, "How do we create the right conditions for tolerance"? For society, the question is, "Is tolerance a high enough goal"?

REFERENCES

- Biddle, D., and Hutton, G. Towards a tolerance theory of worker adaptation. *Human Relations*, 1975 (in press).
- Blauner, R. *Alienation and freedom*. Chicago: University of Chicago Press, 1964.
- Cooper, R., and Foster, M. Sociotechnical system. *American Psychologist*, 1970, 25, 467-474.
- Emery, F. E., and Thorsrud, E. *Form and content in industrial democracy*. London: Tavistock, 1969.

- Emery, F. E., and Trist, E. L. Socio-technical systems. In C. W. Churchman and M. Verhulst (Eds.), *Management sciences: Models and techniques*. New York: Pergamon, 1960.
- Ford, R. N. *Motivation through work itself*. New York: American Management Association, 1969.
- Geare, A. J. The problem of industrial unrest: theories into the causes of local strikes in a New Zealand meat freezing works. *Journal of Industrial Relations*, 1972a, 14, 13-22.
- Geare, A. J. Seasonal influences on strike intensity in New Zealand. *Journal of Industrial Relations*, 1972b, 14, 323-329.
- Gellerman, S. W. *Motivation and productivity*. New York: American Management Association, 1963.
- Goldthorpe, J. H. Attitudes and behaviour of car assembly workers: A deviant case and a theoretical critique. *British Journal of Sociology*, 1966, 17, 227-244.
- Goldthorpe, J. H., Lockwood, D., Bechhofer, F., and Platt, J. *The affluent worker: Industrial attitudes and behaviour*. Cambridge: University Press, 1968.
- Guest, R. H. Job enlargement: A revolution in job design. *Personnel Administration*, 1957, 20, 9-16.
- Hackman, J. R., and Lawler, E. E. Employee reactions to job characteristics. *Journal of Applied Psychology*, 1971, 55, 259-286.
- Handyside, J. D., and Speak, M. Job satisfaction: Myths and realities. *British Journal of Industrial Relations*, 1964, 2, 57-65.
- Howells, J. M., and Alexander, R. P. A strike in the meat-freezing industry: Background to industrial discontent in New Zealand. *Industrial and Labour Relations Review*, 1968, 21, 418-426.
- Hulin, C. L. Individual differences and job enrichment: The case against general treatments. In J. M. Shepard (Ed.), *Organisational issues in contemporary society*. Englewood Cliffs: Prentice-Hall, 1972.
- Kerr, C., and Seigel, A. J. The interindustry propensity to strike: An international comparison. In A. Kornhauser, R. Dubin, and A. Ross (Eds.), *Industrial conflict*. New York, 1955.
- Kornhauser, A. *Mental health of the industrial worker*. New York: John Wiley and Sons, 1965.
- Likert, R. *New patterns of management*. New York: McGraw-Hill, 1961.
- Luthans, F. *Organizational behaviour*. New York: McGraw-Hill, 1973.
- McKinney, A. C., Wernimont, P. F., and Galitz, W. O. Has specialisation reduced job satisfaction? *Personnel*, 1962, 39, 8-17.
- Meat Industry Commission *Report of the Royal Commission to investigate and report on the New Zealand meat industry*. Wellington: Government Printer, 1973.
- Morse, N. C., and Weiss, R. S. The function and meaning of work and the job. *American Sociological Review*, 1955, 20, 191-198.
- Rice, A. K. *Productivity and social organisation: The Ahmedabad experiment*. London: Tavistock, 1958.
- Paul, W. J., and Robertson, K. B. *Job enrichment and employee motivation*. London: Gower Press, 1970.
- Schachter, S. *The psychology of affiliation*. Stanford: University Press, 1959.
- Sykes, A. J. M. Some differences in the attitudes of clerical and manual workers. *Sociological Review*, 1965, 13, 297-310.
- Trist, E. L., and Bamforth, K. W. Some social and psychological consequences of the longwall method of coal-getting. *Human Relations*, 1951, 4, 3-38.
- Walker, C. R., and Guest, R. H. *The man on the assembly line*. Cambridge, Mass.: Harvard University Press, 1952.