"A Study of Attitudes to Factory Work": A Review

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The name Wyatt on a report of the Industrial Health Research Board or the Medical Research Council ensures that a thorough and painstaking study has been conducted and an interesting and informative report has been written. The *Study of Attitudes to Factory Work* by Wyatt and Marriott and their colleagues is no exception.*

The report describes an investigation carried out in three large mass production factories—two motor manufacturers and a steel rolling plant. The object of the survey was to examine some of the causes of satisfaction and discontent in these types of factory communities, and to determine the conditions that make for efficient working and human stability. The method of investigation was by means of the confidential interview carefully planned to cover precisely the ground required and yet to leave the interviewed worker with the maximum freedom to say what he liked about the things that were important to him. The report starts with a clear statement on the sample of worker for interview, the method of assessment of satisfaction or dissatisfaction from each individual, and the way in which an "index of satisfaction" was obtained. It then goes straight into the wealth of material that emerged.

Previous studies by Wyatt and others have shown that the workers' chief concern is centred round the operations performed, wages, systems of payment, security of employment, chances of promotion, relations with work-mates and others, and so on. This report concerns itself almost entirely with attitudes to the job performed and to group incentive payment.

To those unfamiliar with factory work, it probably comes as a surprise to find that among men working at fairly simple repetitive tasks the general level of satisfaction was high. Rather more than one in four of the men assessed themselves as very satisfied, an additional 44% as moderately satisfied with their job, and less than 10% were dissatisfied. There are various possible explanations; the dissatisfied workers may leave the job, they might be reluctant to speak their mind, peace of mind may be preserved by deceiving oneself that one is not dissatisfied. (This raises a nice philosophical point: if one deceives oneself into thinking one is satisfied is one in fact, satisfied or dissatisfied?) Alternatively these may be the accurate measurements of attitudes to repetitive work.

Although length of service was not related to level of

satisfaction, older workers tended to be more satisfied than younger ones. This relationship between age and satisfaction was observed both in low and in medium pay groups. Older men in low pay groups who had not made, and had little prospect of making, progress were more satisfied than younger men so placed. Most of these men were aware of their own limitations and regarded their pay as an adequate return for their work.

Although the group were all engaged on relatively simple repetitive work, three levels of skill could be distinguished. The least skilled group, working on a mechanically controlled conveyor, were less satisfied than those on individual machines or hand work. Certain patterns of likes and dislikes emerged from the responses. Fifty per cent of the workers referred to the interest of their work; 30% to the monotony. Familiarity with the job was a reason for liking it. It is evident that work that may initially be distasteful and tedious can become reasonably tolerable and satisfying as workers become used to it. Fifteen per cent of the men in the motor car factories commented favourably on the simplicity of their work, though sometimes what was described as variety by an operator could hardly be recognized as such by the observer. Pride in achievement was a source of satisfaction for rather less than 10% of workers in each of the factories and the authors comment that "we know very little about the particular feature of work which makes a man feel proud . . . that so few men said anything that would be even remotely construed as expressing pride in work is both significant and disturbing".

Even fewer referred to the satisfaction derived from their skill and the number of jobs offering a challenge to a man's ability and skill was very small. Although there were not many references to the absence of skill the most numerous and fervent complaints about the unskilled nature of their work came from a group of craftsmen employed on semi-skilled work.

Monotony was mentioned by many workers—nearly half in the motor factories and 12% in the steel rolling mills. Simplicity, uniformity, regularity, or repetition were the hall marks of the monotonous job. But as is so often found, what one man thought to be monotonous another regarded as interesting.

Although the enquiry was directed at attitudes to the job itself many replies contained references to work-mates, money and other jobs. References to people were generally limited to a man's own working group, and between 19 and 28% of workers commented favourably on such "social" aspects of their work.

The subtle effect of such social relationships is well described:

"When a man joins the stream of workers going through the factory gate he loses some of his individuality and becomes a member of the factory community. When he reaches his bench he becomes an integral part of a smaller and more compact group, and reacts to group feelings and behaviour. He derives comfort from the presence of others doing the same kind of work, and a task which is intrinsically distasteful and monotonous may become acceptable and even mildly enjoyable under the subtle influences of group companionship."

* *A Study of Attitudes to Factory Work*. By S. Wyatt and R. Marriott, assisted by R. A. Denerley, H. Campbell, J. Walker, Yvonne Kapp, and F. G. L. Stock. Medical Research Council Special Report Series No. 292. (10s.) H.M.S.O. 1956.

Perhaps we do not recognize that these same influences working towards peace and harmony in these circumstances may, in times of dispute and anger, be the cement that bonds strikers together and makes men appear to be unreasonable and intransigent.

As work itself becomes less satisfying so human relationships become more important, and the outstanding importance of relationships between workmates and supervisors is still inadequately appreciated.

Bodily comfort was a topic that drew considerable comment, those unfavourable being more numerous than those favourable. When subdivided into different headings, speed of work, weight of work, material conditions (dirt, etc.), and environmental conditions (atmosphere) were the most significant. It is well known that many factory workers dislike being kept idle; work that keeps a man going is more likely to be satisfying. What is less well recognized are the imperfections of time study men in relation to individual operators. This may be due to two separate factors. On the one hand the "average man", for whose performance the time study standards are set, may represent the majority, but there will still be many "fast" and "slow" workers, for both of whom the standards are inappropriate and unsatisfying. Secondly "errors of judgment" by the time study man are by no means unknown.

Although many men engaged in heavy work derived satisfaction from their pride in their strength, older men in heavy jobs were often anxious about their future. Material factors and environmental conditions were both productive of more unfavourable than favourable comments, poor materials and defective tools being as frequently mentioned as dirt and grease. Atmospheric conditions (heat, cold, draughts) were mentioned by 23%, 18%, and 48% of the men in the three factories. The number of men who said that their wages were the only thing they liked about their job ranged from 15 to 18% in the three factories. As interest in the job decreased so money tended to become more important. To those whose jobs have few or no compensating satisfactions the importance of wages is naturally considerable. As many as 89% of the men in factory A were satisfied with their earnings; in factory C the figure was 52%. In each factory wages were above average for similar types of work. There was a tendency for the men to make comparisons between their present and former jobs, and a number of interesting comparisons were noted. Status value was associated with longer cycle time for the job. A common source of unfavourable comment was a comparison between former skilled and present unskilled jobs. Various comments illustrate the sense of frustration experienced by the craftsman no longer able to use his skill, knowledge, or initiative.

Attitudes to Group Incentive Payment Systems

The second half of the report is concerned with attitudes of the same group of workers to group incentive payment systems. Although time rates are still more common than piece rates there seems to be a growing tendency in industry to equate earnings to output. All the workers covered by the second section of the report were paid on the basis of the output of a group of

workers, though the actual method of payment varied.

The three principal methods were, in Factory A group bonus, in Factory B group piece work, and in Factory C communal bonus, group unit and indirect bonus. The group bonus of Factory A was based on the relation between the time actually taken and the time allowed for a job. As efficiency increased so the percentage paid as bonus increased giving a geometrical relationship between efficiency and bonus. The group piece work payment in Factory B gave each worker in the group earnings directly proportional to output. Factory C's system included less direct methods of calculation.

The men were asked about their likes and dislikes of the systems of payment. The general attitude to all five forms of group payment was favourable, with communal bonus and group piece work systems most satisfying, and group unit and indirect bonus systems the least satisfying. There are, however, certain reservations made on account of the methodology of the enquiry. It is possible that satisfaction with a system of payment might be influenced by the amount of earnings the system produces. This was examined and, on the whole, it was shown that it did not apply to any great extent.

Nevertheless, the form of payment was by no means the only determinant of attitude. It had been shown previously that both output and earnings decreased as the group size increased. This study demonstrated that small groups were more satisfied than large groups and small groups spoke more frequently of the favourable effects of group payment on both earnings and personal relations.

The comments made by the workers were analysed and classified, and, despite the difficulties of such classification, the results showed that the amount of earnings caused more comment than any other single aspect of group payment. Other comments included references to standard times and rates of payment; when these yielded a good and consistent wage or bonus comments were favourable. When earnings were adversely affected by anomalies in rates and standards, or by material and mechanical difficulties, comments were unfavourable. On the whole it seemed that good wages, like good standards, tend to be taken for granted. A deviation downward from an accepted level was resented and sometimes strongly condemned.

Social aspects of group payment gave rise to comment from over 50% of the men; the proportion commenting varied in the different factories. Favourable comments included the view that it promotes team work, leads to pressure from the group on slackers, instils group loyalty and good feeling. The type and frequency of comment, however, were very varied, ranging from the socially minded to the individualist. Some men preferred cooperation to competition, and friendly relations to financial gain. Some were ready to help and to tolerate slower or older men. To others these were a nuisance.

It has often been said that for a piece rate or bonus system to be good it must be readily understood by the worker. In the systems examined the proportion of workers who said they could not work out for themselves how much they had earned varied from 41% to 81%.

The number who gave this as a reason for disliking the system was, however, comparatively small, though unfavourable comments indicated a feeling of dependence upon others and feelings of frustration.

About 40% of the men compared their own system of payment with other systems, sometimes favourably and sometimes unfavourably.

Supervisors were also asked for their views. While financial incentives were accepted as the most important, and indeed perhaps the only incentive, in each factory most supervisors mentioned more than one incentive. In Factory A, where the number of named incentives was highest, the managing director kept himself informed of the needs and aspirations of the workers, and did his utmost to provide for the security, opportunity, welfare, and social and recreational activities that they required. In this factory, 40% of the workers spoke of this person as being responsible for the things they liked.

The final discussion deserves to be read in full. Much experience and sense is packed into the last six pages. With characteristic modesty the report ends by suggesting that "even a limited survey of the type described shows what workers like and dislike and to that extent it can be used as a guide to managerial policy and practice". There are pitfalls in the introduction of almost any system of payment. "The main thing is to make the worker feel that he is getting a square deal, and if this is done he will usually give a square deal in return."

How important it is that this admirable study should be regarded as the beginning and not the end of researches into attitudes to factory work. Management should at last recognize that the social or industrial psychologist has a real contribution to make in providing facts, the understanding of which is essential if a sound management policy is to emerge.

The British Occupational Hygiene Society

An ordinary scientific meeting of the British Occupational Hygiene Society was held at the London School of Hygiene and Tropical Medicine on February 13, 1957. The Society's president, Dr. C. G. Warner, was in the chair and about 40 members and their guests attended the meeting. Five communications were presented to the meeting on a variety of subjects of interest to members and each was fully discussed. Brief synopses of these communications are given below.

Inert-gas Metal-arc Welding

JOAN BEDFORD, P. J. R. CHALLEN, and D. E. HICKISH, London School of Hygiene and Slough Industrial Health Service, outlined the inert-gas-shielded method of welding aluminium and the chemical hazards arising from its use. An industrial hygiene investigation had been carried out in a workshop where this method is employed in the fabrication of aluminium containers. Air sampling was carried out for ozone, trichloro-ethylene, and phosgene, and concentrations of ozone were found to exceed the maximum allowable concentration. The toxicity of ozone was reviewed and clinical findings presented. Preliminary tests of a system of local exhaust ventilation for the automatic welding machines were described.

Heated Floors and Comfort

F. A. CHRENKO, Medical Research Council, described experiments conducted with three women and five men who wore their usual shoes and indoor clothing. In a given experiment which lasted for one hour a subject either sat with his feet on a heated floor or walked slowly to and fro. Altogether, about 380 experiments were made on sitting subjects and 480 experiments on walking subjects.

The air temperatures in these experiments ranged from 58° to 76° F. and averaged 68° F. In any single experiment the drift in air temperature was negligible. High floor-surface temperatures produced discomfort because the feet, and especially the soles, became uncomfortably warm, and this was shown by high skin temperatures. A skin temperature of 93.6° F. on the sole of the foot was associated with a 50% incidence of discomfort. The feet did not become uncomfortably warm until the floor temperature exceeded 77° F., and it is concluded that in a room maintained at a normal temperature the floor temperature should not exceed 77° F., or preferably 75° F. Tolerance of the subjects to heated floors was found to vary with the temperature of the air so that a higher floor temperature could be tolerated as the air temperature was lowered. Mercury-in-rubber strain gauges were used to detect any changes in girths of the ankle and instep when subjects were exposed to a heated floor, but the results were indeterminate. The skin