PSYCHOLOGICAL PROBLEMS IN INDUSTRY

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THIS is a title which could cover an enormous range of articles. It is difficult to know where to begin, any response is partial and it may be accounted some measure of success if more is suggested than included. Details proliferate, concepts are confused. This paper will deal with some general principles.

Naturally the first step was to look for references to published work and to consult some of the authorities. The result was surprising, but not altogether unexpected. One great medical library had an almost complete blank. The headings were sparse and the articles quoted very few, in fact most of them were 20 years old. A librarian at one famous institute said "I don't think you would get much agreement, its such a vast subject." Another said, "I could not pick out any titles specially, there are so many different approaches. So much new work is being done of varied quality. Some might call a paper good and others dismiss it as trivial." Another said that medical thinking was in a flux and that it would be very difficult to get any broad areas of agreement.

As the late Professor Joad used to say "It all depends on what you mean by . . ." The dividing line between the normal and the abnormal is a very fine one and a matter of social attitudes, tolerance and interpretation. In particular, the individual bias of the doctor towards a physical or a psychological diagnosis for presenting symptoms will produce enormous variation in the apparent incidence of psychological problems. Industry is after all only a section of the total human situation, and is organically related to the problems of society as a whole.

A famous historian, Sir Lewis Namier, said that the development of a nation could be traced through the history of development and relation of the armed forces to the state. The impulse and discipline of war and authority resolves into many patterns of relationship between civilian and the services, from domination to relegation.

War was once a major industry, and many have remarked on the close analogy of problems in the services and problems in industry. The great generals have all shown care for men, care for communication and care for logistics. War is out of fashion, but it is fashionable to quote authority. Here a reference to one of the outstanding leaders of

the first world war is apt; his words echo those of many before and after. General Monash, commanding the Australian troops wrote:—

"It is because we do not consider psychology enough that we are taking so long to win the war. Personally I have always found it pays well closely to consider the psychology not only of the enemy, but also of my own troops . . . to study the methods of keeping up the morale and the fighting spirit of our own soldiers. Indeed, it is psychology all along the line. As for myself, it did not take me long to learn that the only ways to carry out the responsibilities of command were, firstly, to erect optimism into a creed for myself and for all my brigades, arms and departments, and secondly to try and deal with every task and every situation on the basis of simple business propositions, differing in no way from the problems of civil life, except that they are governed by a special technique. The main thing is always to have a plan; if it is not the best plan, it is at least better than no plan at all. Although complete written orders were invariably prepared and issued by a general staff whose skill and industry left nothing to be desired, very great importance was attached to the holding of conferences at which were assembled every one of the senior commanders and heads of departments concerned in the impending operation. At these I personally explained every detail of the plan, and assured myself that all present applied an identical interpretation to all orders that had been issued." (Terraine, 1966).

Many writers have drawn on service experience when considering psychological problems in industry, for these problems are also the problems of human relations in industry. In the services and in industry individuals are grouped together in units for a specific purpose, yet linked to homes and to the community. The same problems arise, including that of achieving goals, of achieving communication and dealing with logistics. Ultimately, since human beings are involved, the measure of success or failure must depend upon human relations and morale.

The great interest in psychological problems is itself a remarkable indication of a major change in emphasis. Zinsser (1937) in his very entertaining book, "Rats, Lice and History" shows how often great campaigns have been brought to an end by disease and the course of history dictated, not by man but by diseases carried by rats and lice. Nutrition and living standards also play their part. In the Boer War $\frac{1}{3}$ of all recruits, of a low standard, were rejected on grounds of physical inadequacy. In the Hitler war $\frac{1}{3}$ of all rejected recruits coming

from the affluent society in America were on psychiatric grounds. The conquest of physical disease has changed the balance of nature and steadily increased the relative importance of mental factors in health.

The same can be said of problems in industry. The conquest of the physical diseases in industry and the introduction of technology have diminished risk, diminished the element of physical labour and reduced the hours. These changes increase the importance of the mental factors and the problems of human relationship, related in and out of work (Tredgold, 1963). Last year, over 300 million days were lost from work through sickness, not including absences of less than four days. These unrecorded, short absences are known to account for an enormous total of days. Sickness absence results in a loss of over 5% of all working time. Included in this total are over 30 million days of sickness specifically recorded as due to mental causes, of which the chief is psychoneurosis.

Considerable attention has been paid to the so-called stress diseases and we are steadily increasing our knowledge of the psychological component in all diseases. It is now known that stress can be a major factor in a great proportion of all sickness. The term psychosomatic illness has been coined to cover those illnesses where the psychological element is large or predominant. Of course, all disease and all medicine is in a true sense psychosomatic, but we are still strangely ignorant of the ways in which mind and body react in the disease situation. Again, the psychological factor in disease is associated with faulty human relationships and faulty development pattern, both in the individual and the group of which the family and parental relationships are the basis.

The patterns of human relationships developed at work are of crucial importance, not only in affecting sickness but in affecting production at work, and ultimately production is the most important aim of industry. There is little ultimate difference to industry between sickness absence and attitudes at work which reduce production. A strike can be as serious for the community as a mutiny in the forces.

There was one famous experiment, called the Westinghouse Experiment, in which a team of workers set out to find all the factors in the environment which could be improved and improve production. This team had the blessing of the workers, who interpreted these efforts as reflecting the goodwill of management. With each improvement in the environment, production increased. Finally, the team could think of nothing more to do. Someone in the team questioned how much of the improved production was due to improvement in the physical conditions at work and how much was due to extra effort produced by good-will. It was

therefore decided to alter the environment adversely, but to do it as though the team was fully involved in improvements. Alterations, known to be adverse, still resulted in an improvement in output. This showed clearly that it was not only what was done, but the spirit in which it was thought to be done that affected output.

Since then, it has often been found that generosity and improvements on the part of management, misinterpreted by suspicious workers, has resulted in diminished rather than increased production. Recently, a branch factory employing about 500 people was closed and the work transferred elsewhere because the cost of production was excessive. One of the workmen commented, "for every man working on a shift, six were wandering about and then they piled on the over-time, no wonder costs were high." It was, he said, the fault of management, and he was bitter that management had not done something about it. It is a well-known and common practice in sections of industry where basic wages are low, for affairs so to be managed that considerable over-time is "necessary." Great emphasis is often placed on the need to reduce working hours to provide more leisure, whereas the only effect is to increase hours worked on overtime at much higher rates. Again, a problem of attitudes of mind arising from patterns of human relationship. As Poznan (1961), a psychiatrist, said of the army "somewhere in the development of a military technocracy the quality of leadership in certain officers has become adulterated... they frequently reveal themselves to be inept in their handling of human relationships. Indiscriminate recruiting, unimaginative training and faulty management are the main factors in the development of the disenchanting serviceman." There is a lesson here for industry.

A classic study was published by a Unit of the M.R.C. under Dr. Russell Fraser (1947) working for the Industrial Health Research Board. The team studied and analysed sickness absence in factories during the war years 1942-43. This afforded striking evidence of the importance of psychological factors in attaining industrial efficiency. The team estimated that 25% of all sickness absence was due to neurosis, and in the sample studied over 10% had suffered from disabling neurosis within the last six months. Official sickness returns caused neurosis to appear under such headings as 'anaemia,' 'dyspepsia' or 'rheumatism.' The loss of working days due to neurosis was equivalent to over three days for men and six days for women and were equal for those due to any of the five other subdivisions into which causes of absence were grouped.

These figures are similar to those found by other researchers. It was considered that discrepancies between estimates were probably due to varying

diagnostic criteria used by the certifying doctors. It was found that neurosis was as frequent among those in the more skilled as among those in the less skilled work, and Fraser was of the opinion that failure to employ workers who suffer from neurotic illness would lead to wastage of skilled labour and productive capacity. At the same time, just as individuals with damaged lungs are particularly sensitive to respiratory irritants and need care in the selection and supervision of the physical environment, so is it essential to pay particular regard to the work association and psychological environment to which the (neurotic) individual is exposed. As President Truman said of a certain political appointment at a time when peptic ulcers were a fashionable indication of stress in the job, "He is a two ulcer man in a three ulcer job." Both over-promotion and under-promotion can produce serious consequences for the individual and his community.

It was noted that a decrease in social contacts, unsatisfactory human relations, were circumstances most commonly associated with neurosis. Under sufficient strain any individual may break down. This has been the conclusion of many investigators, including Professor Elton Mayo (1945) in his classical study "The Social Problems of an Industrial Civilisation." It is now generally agreed that social factors within and without the work situation have a profound effect upon individual and group attitudes and emotional responses. In this country, Professor E. Jaques (1951) has made perhaps the most intensive study of these factors as they affect the life of a single organisation, and his book "The Changing Cultures of a Factory" (1951) is an important contribution to the subject. Psycho-social factors, the importance of channels of communication and all that involves status, sense of participation and responsibility, are shown as factors which profoundly affect occupational efficiency and productivity.

Appreciation of these factors has been slow to gain recognition because of their variability and difficulty in precise definition and even more because of primitive, unconscious fears. Socially and medically, mental illness has been unacceptable, and therefore often ignored in favour of a physical diagnosis. It is an old truth that we tend to find what we are trained to find and anxious to find, and that in searching there is often a psychological blindness to unacceptable factors. Now that physical health has improved so much and so many physical diseases are minor in place of major causes of death or incapacity, the relative importance of mental factors in ill-health is increasing rapidly. It has been estimated that not only are over half our hospital beds occupied by the mentally sick, but that in the course of a life-time over 1:10 women

and 1:15 men will be under hospital care for mental ill-health. This is only the point of the iceberg above the sea in the bulk of psycho-social and psychosomatic disease. In addition, due to the introduction of new methods of treatment and in particular the tranquillising drugs, many who previously would have spent very long periods in hospital are now able to remain in the community with brief periods in hospital. This places a considerable extra burden on the Local Authority and General Practitioner Service, and also upon Health and Welfare Services in industry. With understanding and insight in selection and placing, and with support at work by colleagues who have been prepared, many individuals may make a useful contribution to industry where if this be lacking, they are unemployable or cause disruption.

It is important to realise that the prime object of business is to be efficient and productive, and that anything interfering with this end may have to be eliminated unless it can be shown to have a compensatory value. By this is meant that sometimes a handicapped or elderly worker, treated with care and consideration, is a visible reassurance to his companions that the organisation is not careless of human factors and not interested in mere ruthless efficiency. It is remarkable how much extra work will be done, cheerfully and willingly, by colleagues who are anxious to enable such an individual to remain in employment.

Not infrequently individuals will remain off work for long periods with a physical symptom, for instance dyspepsia or nervous eczema, which is, in fact, aggravated by their feeling of guilt and anxiety at not being at work. If they are enabled to return to work and given careful supervision, the condition frequently makes quite astonishing improvement. It has been remarked (Herford, 1957) that with the mechanisation of work and the breakdown of jobs into increasingly simple operations of a repetitive nature, much work is more suitable for the educationally sub-normal than for normal people. In fact, many of these jobs can be done better by the sub-normal because they are less likely to become bored and inattentive. Fraser, in the study referred to earlier, observed that neurosis was more common in women on light sedentary work. Sometimes in the name of efficiency and discipline, people doing very dull repetitive jobs are denied opportunity for conversation. The result is irritation and frustration and ultimately lower production, more absence in the toilets, to talk and smoke, and an increased labour turnover.

It would be possible to continue enlarging upon these problems almost indefinitely nor least the psycho-social effects of shift work. The volume of literature on the subject of psychological problems in industry is becoming very great as realisation

extends of the profound influence of attitudes of mind in all occupational situations. The important issue again and again, is not what is done or what are the physical circumstances of a particular situation, but the way in which things are done and the way they are thought about. Just as the indivisibility of mind and matter is recognised in the term psychosomatic medicine, so is there a similar indivisibility of approach in industry when considering men, materials, environment and organisation for production. We consider now the epidemiology of mental ill-health in the family and the field of Public Health, Community Health. It has been said that the next great advances in Public Health may be in the field of Occupational Health and this may well be true not only as regards the physical environment, but as regards the mental environment, the field of Human Relations in industry. At every point community attitudes and situations impinge upon the industrial, and vice versa. All selection is arbitrary and artificial, the need is to see a situation in relationship to other situations, a mutual inter-action. The term Multifactorial is indeed applicable when considering psychological problems in any sphere.

Since specified mental illness cost the N.H.S. over £140,000,000 last year, and in addition to lost productivity cost the insurance funds another £21,000,000, the medical profession clearly has an important responsibility.

The Role of the Doctor

It is a platitude to say that the doctor is concerned with the whole man, but it is still true to say that all too frequently the treatment takes note of one half only. The term multifactorial, concerning any disease or situation, is now a necessary concept in treatment. Just as in the case of the disturbed child it is realised that the fault commonly lies with the parents, so it is found that the sick individual is often the presenting symptoms of a sick family. Similarly, in industry, the sick individual is often the presenting symptom of a psychologically disturbed community (Herford, 1961). Stress patterns of disease may react throughout a working community. Again using an analogy from the Services, The Caine Mutiny, a story of a ship with a grossly psychologically disturbed captain, showed brilliantly how the stress he engendered disastrously affected the ship's company. Ultimately it matters little whether the staff of a factory are absent with influenza or emotional stress manifesting as debility or indigestion. When morale is low, absence will be longer and more frequent.

A recent study in America concerned over 2,000 men apparently free from coronary heart disease, (C.H.D.). A psychological questionnaire was devised which revealed those in the group with

excessive aggressiveness, ambition or impatience. Lipoprotein analyses and other physical tests were made to try and predict liability to C.H.D. It was only when physically predictive tests of liability to C.H.D. correlated with prediction of C.H.D. on the basis of emotional tests that a very significant incidence of C.H.D. was found. Either of these sets of tests alone, physical or emotional, were unsuccessful in prediction. The authors concluded that consideration of a patient's behaviour pattern "carries a profoundly important prognostic relevance" concerning C.H.D. and without it, "grave errors of interpretation may be made." The reverse is true, both mind and body must be considered as a whole.

Today we have the affluent society, the dangers of ever-accelerating change. A fluid society, and cultural values in a state of flux, speed of communication blurring demarcation lines, all tend to increase tension and stress. Stress diseases are taking the place of the killing diseases of the past.

In these circumstances, the doctor in industry has a changing role to play. He is dealing with a community in a state of relatively good physical health in a relatively favourable physical environment. He must be increasingly concerned with attitudes of mind to living and with human relations in the broadest sense. He is intimately involved in problems of management and leadership. As the captain of a ship or unit exercises a profound influence on health and morale, so does the manager of a factory. In the Services, where doctors have been associated far longer than in industry, experience has shown the doctor must be medical adviser directly related to the senior officer and this is equally true of industry.

Education and medicine are indivisible. There are two aspects of education, the authoritarian, the circus trainer, and the true teacher who stimulates the student and enters into a mutual learning situation. Corresponding to this there are two aspects of medical practice, the authoritarian prescriber of treatment, the veterinary surgeon, and the mutual relationship of learning where the doctor and patient are dynamically involved. The patient is helped to come to terms with his own disability, to know how to use a doctor and to be his own best doctor, to gain insight into the disease situation. As in true education, this involves participation and responsibility. In industry it is not the function of the doctor to prescribe medicines but he is intimately concerned with problems of personnel management and welfare as they affect human relations and community well-being.

Under the title Ergonomics the whole problem of designing the machine to fit the man is being intensively studied physically and mentally. Generally it is still true to say that far more care is

exercised in purchasing and maintaining machines for a firm than in the selection and handling of people. It is important to realise that in spite of the importance which all these aspects give to the role of the doctor, he is no more infallible than other human beings concerned with leadership and human relations. As in the Services he is not responsible for the health of the troops, that is the function of the officers. He is responsible for his own training, and efficiency, to enable him to give the best advice to the senior officer and to those who consult him. It is his duty to know how to co-operate and to stimulate co-operation, he is a catalyst in problems affecting health, and these problems ultimately affect efficiency and performance. It is an old saying that we form our institutions, or organisations, and they mould us. Each organisation develops an organic life of its own which may profoundly affect the attitudes and mental health of those who join it. The doctor has to study the psychology of this organism. Here again he is a catalyst and there should be dynamic interaction, just as there is between the organisation and its environment. Psychologically no less than physically, the law of survival imposes adaptation and flexibility.

So far the nurse has not been mentioned, but throughout, the term doctor should have been interpreted to cover the nursing section as well. Often there is no doctor but a sister-in-charge. In any case the function of the nursing staff is of vital importance. The doctor working with a good nurse is immensely more effective in his work. It is an essential partnership of effort. As Dr. J. J. O'Dwyer and his colleagues have shown in their valuable monograph "A Study of Change. The Doctor & Sister in Industry" (Occ. Health 1963) help cannot be given to those who do not want it.

The medical staff often play their most important role in listening. Emotions which, if bottled up would lead to explosion, in many different ways, can be verbalised and tension relieved. If there is insight and understanding based upon knowledge of human situations and the problems of human relationships, it is possible that a word here or there may enlarge insight and understanding. It may be possible to assist the individual to achieve a tolerable resolution of the problem for himself or to assist communication in the organisation, enabling some relieving factor to be introduced to ease the situation. This marks the involvement of the medical staff in the problems of welfare, and as a vital component of the personnel organisation. The doctor, as O'Dwyer points out, has executive, consultative and specialist functions in relation to one individual, one group, or the organisation as a whole, through his relation to the chief executive.

There is great need for better training for the doctor and nurse who will have to face these situations.

Accidents

It was noted by Hill and Trist (1962) American lost time accident frequency per million manhours worked in 1949 was reported as 7 : 2, whereas the British equivalent was 32 : 6. The level of accidents was held to depend upon two factors, "opportunities" for accidents and the propensities of individuals to take these opportunities. It was appreciated that physical prevention measures and propaganda were not enough. "Accidents are often motivated by unconscious trends in the individual or may be indirect consequences of tension between groups." The term "accident prone" is now an accepted concept. The writers point out that "the behaviour and reactions of individuals cannot be adequately interpreted by reference to themselves alone." Account must be taken also of their relation to a cultural as well as a physical environment, which, in the case of a place of work, is a highly organised structure both technically and socially. There is need for a psycho-social approach to a problem which, in addition to many other factors, often involves an element of withdrawal from a difficult situation and a convenient reason for absence. The element of compensation neurosis is of increasing importance. The report concludes that one of the chief hopes for improvement lies in giving more help in the adjustment of entrants and considers that along these lines a reduction of labour turnover itself might be achieved.

Perhaps this is another reason for giving much more support to young people in the transition from school to work, and for the general organisation of training and induction courses. The object must be to develop a sense of responsibility, based on a sense of personal significance and participation, which can only be achieved through good human relationships.

Integration of Services and the General Practitioner

In many under-developed countries, where germs and parasites are rampant and malnutrition common, there is a major problem in deciding whether to concentrate scarce resources in hospital centres mainly concerned with the gravely ill and problems of salvage, or to do less spectacular but quite fundamental work in instituting health measures and training of a preventative nature at family and village level. The same problem once faced our own country, and armed with hindsight it is easy to say that if more had been spent on educational and preventive measures and less on great hospital centres, progress towards community health would have been faster.

Today there has been a vital shift of emphasis in the developed countries in that physical factors in health are yielding place to mental factors. In this situation we are back in the position of the under-developed countries, with very scanty resources. The next great development of community health must be in the field of mental health and the emergence of a therapeutic community. In these circumstances it is reasonable to argue that since resources are very inadequate it would be better to reinforce workers in the field, in-service training and close liaison with University Teaching Centres, rather than use these scarce resources of personnel in hospital treatment centres.

The problems of the community and of industry are indivisible. There is no question that the hardest test in medicine is to sense ill-health and disease producing situations at the earliest possible moment. It is necessary here to discern the relative importance of mental and physical factors, to initiate early measures of preventive or curative treatment. Ultimately, to decide which of a large number of specialists to consult. This is broadly the role of the General Practitioner. The rapid growth of knowledge in every discipline has made team work essential. Every doctor is a member of a team with the nurse, medical auxiliaries, and lay people each performing vital tasks. Medicine, as Professor Crewe said, is an instrument of social policy. It is intimately involved with all the social services. Most intimately of all, it is in the preventive sphere that medicine and education are indivisible. The school is a biological unit, with a corporate life of its own which can effectively propagate attitudes of mind towards work and responsibility. These attitudes can be of much importance in the work sphere where there is also a corporate life where health and welfare are indivisible. The School Health Service and the Occupational Health Service represent fields of specialisation within the scope of general practice in the terms of the Cohen Report (1954). The whole links closely with the community health services as an indivisible team.

Organisation in the Field

It might be helpful briefly to mention several of the organisations working with the problems discussed in this article. The following notes are taken from their self-description. Dr. Robinson, Director of Roffey Park, has been particularly helpful.

National Institute of Industrial Psychology

Productivity and People. The cry in industry today is for increased productivity. And it is now widely recognised that productivity depends on people. It is not enough to use the latest methods of manufacture. It does not pay to perfect the machine and neglect the man.

Efficiency is not just a matter of technology. To an important extent it is a matter of psychology.

Psychology in Industry. Applied to industry, psychology is the scientific study of people at work — how they differ in their talents and temperaments, how they acquire knowledge and special skills, how their thoughts and feelings are reflected in their behaviour on the job. It is concerned with improving working methods and conditions, selection and training, supervision and management — everything, in short, that affects a man's adjustment to his work and his fellow workers. Its aim is to make it easier for workers at all levels both to "feel good" and do a good job.

(This, surely, is part of health and therefore of importance in the field of health promotion and prevention of ill-health with which medicine is intimately concerned).

The National Institute. The N.I.I.P. is the only British body solely concerned with research in this field, combined with teaching and practice. It was set up in 1921 as a scientific association not for profit. It is non-political and entirely impartial towards management and workers. Its governing body includes representatives of the Confederation of British Industry, the Institute of Directors and the Trades Union Congress. It carries out investigations for industrial and commercial concerns of all kinds. It provides courses of training in systematic methods of personnel selection. But nowadays its primary function is research into the practical day-to-day problems of industry.

The Tavistock Institute

The Tavistock Institute studies human relations in conditions of well-being, conflict or breakdown, in the family, the work group and the larger organization. The members of the staff have been trained in different disciplines but share a belief that integration will yield fresh insights into human relations. The Institute's association with psychological medicine sets a distinctive imprint on its activities. These comprise practical services of many kinds, research and training. Through contributions to the social and psychological sciences, the Institute seeks to enlarge knowledge of ways to promote the health and effectiveness of the individual and of organisations in society.

The Institute works in two spheres:

In one it is concerned with family and social psychiatry, and is medically oriented. In conjunction with the Tavistock Clinic, a unit of the National Health Service, it initiates developments in prevention and treatment and conducts related teaching and research.

In the other it is concerned with organisations and their behaviours and with social change. Here it conducts its research in collaboration with private and public bodies, trains personnel to undertake such work, and offers advisory services.

Roffey Park Rehabilitation Centre

Roffey Park Rehabilitation Centre was founded in 1943 by the National Council for the Rehabilitation of Industrial Workers for the treatment of employees suffering from nervous break-downs. The Council recognised the wastage in manpower from neurotic illness and the necessity to establish a centre for its investigation and treatment. This pioneer project proved its merits in the successful results of treatment, so that when the National Health Service came into its being it was taken over by the South West Metropolitan Regional Board.

Since this date the Centre, while fulfilling its role as a neurosis centre under this Service, has retained its special role of treating patients recommended for

admission by whole or part-time Industrial Medical Officers, from all major, private and nationalised industries throughout Great Britain. For this reason the hospital has no catchment area and indeed the majority of those admitted direct from industry come from London and the Home Counties, Manchester, Birmingham and Coventry. The Centre is designed for patients drawn from supervisory and executive levels, since it has shown that those of good intelligence do best and over 90% of all patients admitted in recent years have an intelligence quotient above the average.

Roffey Park has a positive therapeutic environment based on community life in which staff and patients combine in an effort not merely to remove symptoms, but to help patients to understand themselves better, to find a more satisfactory solution to their problems and avoid further breakdown. Medical treatment includes individual and group therapy and the use of all recognised modern drugs and physical methods of treatment.

Peace has its victories no less than war. Nature does not owe Man a living. It must be won, and all the qualities of service and sacrifice, (Herford, 1957) of loyalty and comradeship required in war are even more necessary to prevent war and to achieve peace and harmony in civilian life. Field Marshal Slim commented that the campaign in Burma was the first in human history where, in tropical conditions, casualties were fewer from disease than from battle. That was a triumph for organisation and training and leadership, for preventive medicine in which the medical profession played a notable part. It is possible for the medical profession to play an equal part in the field of mental health and psychological problems in industry?

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