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## MORALE IN INDUSTRY

IN the subscription by people of all political parties in Britain to the policies of full employment and a rising standard of living, far too little has been said of some of the practical implications of these aims. There is indeed general agreement that total spending must be maintained at a high level, investment in industry scaled up, research encouraged, the quality of management improved and monopolistic restrictive practices rooted out. But it is rare to find any reference to another, and no less indispensable condition, both on economic grounds and by its bearing on the morale of the whole community : namely, the organization and incentives of industry must be so contrived that individual men and women produce as much as they can, putting no limit, conscious or unconscious, on reasonable maximum output. After five years of intense effort and overstrain, it is natural that everyone should look for shorter hours and increased leisure, but it is imperative to realize that in a world so short of consumption goods, houses and utility services and amenities, the maximum output must be forthcoming during these shortened hours of work.

This is, in fact, part of the price to be paid for social security, but it is rare indeed to find the full implications of industrial efficiency, where they touch the worker himself, recognized ; and the broadsheet "Output and the Worker" issued by P.E.P. expounds an aspect of the drive for full production which the dust of the general election in Britain has tended still further to conceal. The causes of limitation of output go deep and involve a complex of mental and physical factors. Lighting and ventilation, and other sources of physical comfort or discomfort, have an obvious effect on output ; but the effect of mental factors such as the fear of unemployment and anxiety about pay may be equally important though less obvious.

The P.E.P. broadsheet, which is based on part of a forthcoming report on industrial relations, and compares the main findings of qualified investigators on this subject, suggests that security of employment alone would remove one of the main brakes on individual or group production. Again, it suggests that production committees, wisely handled, should go some way towards removing another mental obstacle to full production—the sense of antagonism between workers and management, arising from a real or supposed clash of interests. At the same time, by spreading a feeling of greater personal responsibility, these committees might help to mitigate industrial boredom, itself a potent source of restriction.

There is no simple cure for these and other mental causes of restriction, nor can the problem as a whole be tackled successfully by management alone. A joint approach by management and workers is required, and a reconciliation should be sought between their group interests. The broadsheet affords strong support for the view advanced by Prof. H. J. Laski in his "Reflexions on the Revolution of our Time", that with the achievement of a policy

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of full employment the trade unions may have new and more positive functions in place of those defensive and sometimes restrictive policies which they have pursued in the past.

The evidence reviewed by P.E.P. in this broadsheet covers experience in the United States, including that of M. E. Dickson, of Whiting Williams, of S. B. Matthewson and the prolonged researches at the Hawthorne Works of the Western Electric Co. in Chicago, as well as the work of S. Wyatt, H. M. Vernon and the well-known series of studies under the Industrial Health Research Board in Britain. Restriction in particular is closely analysed by S. B. Matthewson in "Restriction of Output Among Unorganised Workers", and more recently by F. J. Roethlisberger and W. J. Dickson in "Management and the Worker" (Harvard University Press, 1942).

The present P.E.P. broadsheet is concerned with what may be termed the predominantly mental sources of limitation of output, whether conscious or unconscious. Physical factors, such as lighting, heating, ventilation, humidity and noise may diminish or increase physical fatigue and so affect output. But while bad conditions in respect of any of these factors may reduce output severely, even if conditions are reasonably good further changes in the physical environment may have little effect by comparison with psychological factors which may mask any effect due to the physical factors. It is of course difficult to draw a firm distinction in practice between fatigue and boredom. Physical and mental factors in practice usually interact, and the brilliant investigations of the Industrial Health Research Board into the nature of industrial boredom and its effect on output, which as a result of the increasing importance of repetitive work in modern factory-production has become one of industry's most pressing problems, have indicated that the attitude to work is largely a group phenomenon. Working groups tend to have a predominating tone in this respect, and this tone frequently depends on one or two outstanding personalities, acting as more or less informal leaders to the group.

Similarly, it is difficult to distinguish conscious from unconscious elements, and unconscious or semi-unconscious limitation of output is probably more prevalent than deliberate, organized limitation. That factor in itself may well have had an important influence on the high level of output during the summer and autumn of 1940, and have masked to some extent the injurious effect of the excessive hours worked during a prolonged period in spite of all the evidence of the dangers of such a policy. Fear of unemployment undoubtedly ranks high among the causes limiting output, and so long as mass unemployment is allowed to occur, the widespread belief will persist that there is a definite limit to the amount of work to be done, and that it is therefore in the interest of wage-earners as a whole to share what work is available among as many people as possible. Such reasoning will not be rooted out by mere argument, and there have already been incidents in the transfer of labour from war-time employment which, to say the least, will not help such eradication.

Matters affecting payment, particularly fear of rate-cutting, come next in importance; but while the case against economic factors as a main cause of restrictive practices may possibly be over-stated by Roethlisberger and Dickson, here as in boredom it is a matter of physical and mental factors interacting. Moreover, though a new machine or an improvement in technique could probably have more effect on production than could any improvement in applied industrial psychology, the absolute contribution which could come if we achieve the highest productive potential of working individuals and groups is very great. In addition, when the majority of its members are deliberately or unconsciously giving less than their best, a society is on a very unsound basis.

For these reasons, an improvement in industrial morale stands only second in importance to improvement in industrial technique and equipment. In spite of its defects in morale, industrial efficiency in Britain suffers more from lack of up-to-date equipment and organization than from lack of skill in its operatives; but as we replace obsolete methods and equipment and approach American standards, the importance of morale will increase. Experience of the industrial war effort in Britain, the United States and the U.S.S.R. suggests that utilization of the group interest of the workers themselves is the most important line of advance, and clearly offers great scope for co-operation between management and trade unions. So long as there is a real or supposed gap between the group interests of workers and management, the enlisting of this source of productive energy will remain imperfect, and in spite of the valuable lessons to be learnt from the war-time joint production committees, the scope of such bodies has yet to be worked out in its most effective form.

It must be recognized that there are general features of the industrial situation, independent of trade unionism, which are of governing importance. The total economic situation, as already emphasized, profoundly affects the industrial psychology of the working individual or group. Again, mechanisms of defence which the average worker erects against the trade cycle and the attitude that goes with them persist even when not relevant in a given economic situation. Then there is a long-standing and deep-seated suspicion of authority in all its forms, and particularly as seen in the supervising staff in immediate contact with the worker.

To these features the P.E.P. broadsheet makes no more than passing reference, although their importance is clearly stressed. The central difficulty, however, is nowhere stated in the broadsheet, for all the recognition of the value and the limitations of scientific research in this field. That difficulty is essentially the inevitable opposition which develops between the scientific approach to the human problems of production and the political approach of the administrator trained in the method of accommodation and compromise. The balancing of opinions and the compromise of different points of view, which is the essence of the political process, may be totally at odds with the scientific approach to questions of industrial management. What is required is not the

surrender of scientific principles of accepted accuracy, or the ignoring of established fact, but the combination or integration of both the political and the scientific approach in a solution which satisfies both the scientific and the psychological or political requirements.

On our success in achieving such a solution, the question of morale, industrial efficiency and ultimately a full employment policy largely depend. The point could scarcely have been made better than in the address "Compromise and Integration" which Colonel L. Urwick delivered last February to a joint meeting in Liverpool of the Institute of Labour Management and the Institute of Industrial Administration. The reconciliation of our institutions to the new environment created by science and technology is the great problem of our civilization, and Colonel Urwick demonstrated effectively the challenge involved in using fully the results of scientific knowledge and the immense control it gives us over material things, without sacrificing the freedom of mind which alone makes further scientific progress possible.

Not the least significant part of Colonel Urwick's address is the opening part, in which he stresses the need for precise thinking and for exactness in the use of words. Words are the tools with which men think, and scientific workers would be more effective in the interpretation of their work to the community if they kept that axiom more constantly in mind. In any event it must be regarded if we are to achieve the integration of scientific workers and technicians with each other, and of science and technology with the life of the community. A first step to the new kind of thinking, towards seeing our problems as a single problem, to the integration which will eliminate the confusion into which our civilization has fallen since the industrial revolution, is a clear understanding of the words we use as our tools of thought, and in particular of the distinction between compromise and integration. It is also the first step towards resolution of the conflict between social classes and between private ownership and State bureaucracy.

While a clear understanding of the terms used is a first essential, the light of a great common purpose alive and real in the minds of all the specialists as in that of the community they serve is equally important. Such a purpose must be conceived in terms of the common welfare, not in that of a particular class or section; and of its nature it implies the participation of all the people for its realization. Such participation in its turn demands not just that the experts understand each other, but that they make their specialized tasks explicit to the people, so that they are understood by and become real to them.

This is impossible, as Colonel Urwick points out, while men try to live their lives in water-tight compartments guided by mutually incompatible principles. We must, he reminds us, restate our philosophy of economic life in terms which can give both specialists and workers a sense of common moral purpose. To do this, to integrate the real wishes of the right and of the left in Britain, we need vision and determination to cut through the verbal formulations, the truculent attitudes, and the clinging to

outworn slogans in which those wishes are disguised. Our national spirit of accommodation and conciliation should be exercised in making conflict really constructive, and in inventing and developing true integrations.

The significance of all this in industrial psychology and in management generally, and the challenge offered to constructive thought by the present situation, should need no further emphasis for the scientific worker. But if industrial efficiency and the achievement of the maximum output require a closer integration of the workers and of the management, equally they require a closer integration of industry itself with the needs and purposes of the community as a whole. That will not be achieved merely by scientific research in the field of industrial health and psychology, by the establishment of the most effective conditions for joint production committees, and so on. It is part of the larger task of establishing the dynamic relations between individuals and the organizations they serve in the nation as a whole which really represents what we understand by the term 'morale'. For this we need to call on the civic idealism and spirit of service which the Fighting Forces have already generated in youth. In the schemes for education in citizenship, study circles, discussion and community groups, supported by such national services as the Arts Council of Great Britain, and possibly a national fellowship of service as suggested by Mr. Arthur Bryant, we may be able to elaborate machinery through which democracy can function on the ground-level, and the spirit of accommodation and reason be fostered as against an uncompromising attitude which is so grave a danger to industrial efficiency and to the existence of democracy. Ultimately, industrial efficiency depends on the integration of the purposes of industry with those of the community itself; and for the smooth functioning of our co-operative institutions, whether industrial, professional or cultural, the preservation of their social values, and the establishment of dynamic relations with the community they serve, not merely technical knowledge but also the skilled diagnosis of human situations are vital factors.

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## TROPICAL PEDOLOGY

### The Soils of Equatorial Regions

With Special Reference to the Netherlands East Indies. By Prof. Dr. E. C. Jul. Mohr. Translated from the *Nederlandsch* by Robert L. Pendleton. Pp. xii+766. (Ann Arbor, Mich.: Edwards Brothers, Inc.; London: H. K. Lewis and Co., Ltd., 1944.) 7.50 dollars.

THE study of soils in equatorial or tropical countries has been very backward in comparison with that in temperate regions in spite of the great development of agriculture in the low latitudes. What is known is largely due to agricultural officers and chemists who had little time to spare from their routine duties. Unfortunately, much of the information available is for surface soils only, profile studies being rather scarce. Comprehensive studies on trop-