Productivity and Social Organization: The Ahmedabad Experiment. By A. K. Rice. (Pp. xiii + 298. 35s.) London: Tavistock Publications. 1958.

For some years now there has been a steady flow of literature from the staff of the Tavistock Institute of Human Relations concerned with the sociology or social psychology of industry. Unfortunately, much of it has been very difficult to read or digest because the language used has tended to obstruct rather than facilitate the exchange of ideas. Mr. Rice's book goes a long way to make amends.

The book describes three experiments carried out in mills of the Ahmedabad Manufacturing and Calico Printing Company Ltd. Two of the experiments may be regarded as fairly classical studies of the reorganization of groups of operatives engaged in industrial processes, *viz.*, automatic and non-automatic weaving. The third is concerned with the reorganization of management. Before the experiments are described we are given a straightforward and concise account of the theoretical background that is deemed to be important in any changing industrial community. Even those who cannot spare the time to read the details of the experiments should read those sections (part II) which set out these theoretical considerations. It is argued that overall efficiency requires not only the technologically appropriate equipment but also a sociologically satisfying works organization. The gains that may be expected to flow from technical progress may well be nullified if they produce changes that conflict with the social needs of the worker. Even organizational structures which have been long established may well be inappropriate to the workers' psychological needs. Any investigation, it is argued, must first decide what these sociological needs are and how they are to be met. The culture of different societies will influence differently the conscious and unconscious needs of the industrial worker in his work environment. It is necessary therefore that this cultural background should first be examined. Where workers are working in groups, to be socially satisfying the group and its tasks must fulfil certain conditions, for example, conditions of size, of task organization, and of the individual roles of the members in the group. The role of each individual should not extend beyond that of the group as a whole. Having set out these and other principles the course of the experiments is described.

In the first place, a careful study and job analysis was made of the existing organization, the pattern thus revealed was then compared and contrasted with the theoretical ideal. The discrepancies are pointed out together with their theoretical and practical consequences. This is followed by a description of the course of events that took place as changes were made together with comment on the theoretical implications.

In neither of the weaving experiments was success achieved without local and national difficulties. For example, after the non-automatic weaving experiment had been running for approximately four months a national campaign against "rationalization" flared up and made the position of the workers in this shed very difficult.

In the automatic weaving shed

"the first spontaneous acceptance of the new system and the subsequent determination to make it work were due primarily to the workers' intuitive acceptance of it as one which would provide them with the security and protection of small group membership which they had lost by leaving their villages and their families to enter industry. At the same time, the new system allowed them to perform their primary task effectively and thus provided them with an important source of satisfaction."

In the non-automatic shed

"the acceptance of the new system and the determination to make it work were due to its providing more opportunities for effective task performance and for the building of stable and secure small work-groups relationships than those existing in the conventional system with which the traditional norms of performance and wages were associated."

The considerable changes that took place had their repercussions on the structure of management and the creation of new managing systems is described. The informal and personal management of the past had to give way to a new system of increased specialist knowledge and greater delegation to executive managers. Once more the approach followed well-accepted patterns.

"The first task was to get a picture of the existing organization, of the reasons for its development, and of how it worked. Thereafter the overall socio-technical system of the mills was analysed and appropriate managing systems evolved, discussed, modified and finally established and manned."

In the final section of the book, "Social and Technical Change", the original concepts and assumptions are re-examined and discussed. Although the book is primarily an account of a discreet study in an Indian textile mill it is clear that this serves to illustrate much wider concepts and throw light on more universal problems. India itself is going through its own particular version of our western industrial and social revolution of the last century and a half. The problems which confront India may, it is argued, be more effectively tackled if attention is paid to the implications of social change as it affects different groups—management and worker—caste and caste—village and factory. New groupings will have to give satisfactions to replace those of the former grouping. Developing machine technology requires a works organization not only appropriate to the scientific and technological demands but also appropriate to the changing psychological needs of those who are involved in it. The satisfactions which formerly accrued to a man through what he did must be replaced by satisfaction through what his machine does. The need to recognize that technical change has its impact on social organization is important both in India, where industrialization is replacing craft and village industry, and in the west where automation is having its impact on the operator-machine relationships. HARRY G. MAULE

Ageing on the Factory Floor. By F. Le Gros Clark. Published by The Nuffield Foundation, London.

This is essentially the report of a study of ageing within the conditions of modern industry—in this case the production of domestic furniture—and some com-

ments and conclusions on the findings. At a time when the percentage of those alive over pensionable age has enormously increased and when the numbers are still rising, any attempt to study conditions in industry which affect the age of retirement is welcome. The writer wisely emphasizes that "it is not scientifically safe to generalize about ageing men from one set of working conditions to another" but obviously certain principles must hold in all working conditions, and these have been well brought out in this study.

First, the worker's overall initial training must clearly affect, when he becomes an older worker, his ability to move from one section of an industry to another. Those workers who have had an all-round training will more easily be transferable to work which may be skilled but physically lighter than those whose early training was in one small section only. Often in industry the maintenance of an older worker depends upon his ability to move—and this is especially so when he cannot for medical reasons remain in his previous position.

Secondly, the introduction of new machinery which diminishes the labour force must react on the employment of the older worker, but progress cannot in the terms of national economy be held back and these conditions must be studied.

Thirdly, the author refers to the attitude of the firm towards the continued employment of its older employees, which is probably the most important factor of all. Inherent in this attitude is the firm's choice of shop supervisors and foremen, for the breakdown of operations and the administration of transfers depends upon these key men for smooth running and coordinated overall timing in production. Without their sympathetic understanding in this approach the whole system of transfers and concessions to older workers would be impossible.

Those interested in the problems connected with the employment of older workers will find this study interesting and the arguments stimulating. It is to be hoped that this survey may lead to additional studies in other spheres of work as research into the subject of employment of older workers and allied problems is much needed at the present time.

MARJORY WARREN

First Aid and Early Treatment of Burns in the Royal Air Force. Air Ministry Pamphlet 168, 2nd ed. (Pp. 70; 14 figures. 3s.). Issued by the Air Ministry (D.G.M.S.). London: H.M. Stationery Office. 1956.

Many of the lessons learned in war are forgotten in the peace which follows. It is encouraging to see that this pamphlet published by the Air Ministry places on record the vast experience and latest thought gained in treating severely burned airmen by the R.A.F. Medical Service.

Ignorance and careless handling in the early stages are held responsible for some poor results in burned patients. With this in mind the book is divided into four sections:

Part I deals with protection from burns, enumerating well-known principles. Later chapters deal with first aid in a logical manner, emphasis being laid on preserving life, preventing extension of the injury, and the securing of medical help.

Part II deals with the treatment of shock and the early surgical procedures in cleansing and grafting of burns, including treatment of the type often carried out in medical departments in industry.

Part III is written for surgeons not specially trained in the treatment of burns and describes the surgical procedures which would be carried out in hospital. It includes some of the early plastic procedures involved in reconstruction and also an account of complications such as toxæmia, anaemia, and infection.

Part IV poses the problem of treating large numbers of burns such as might occur in thermo-nuclear air attacks.

This very readable and instructive little book should be of great interest and value to doctors, nurses, and first aid workers in industry, as well as to all those in the hospital service who have to treat burns. General practitioners may have little call on their services to deal with any but minor burns. This book would certainly bring them up to date if such a catastrophe should occur.

R. A. TREVETHICK

Microdiffusion Analysis and Volumetric Error, 4th ed. By Edward J. Conway. (Pp. xviii + 465; 79 figures. 42s.). London: Crosby Lockwood. 1957.

Professor Conway's valuable textbook describes in minute detail the principles of microdiffusion analysis and its application to the determination of a large variety of substances. The technique is particularly useful for the study of clinical and biochemical problems. A most useful section is the 91 pages devoted to the consideration of the errors of volumetric titration; this is of value to all analysts.

This new edition illustrates recently developed microdiffusion units and also describes the use of a vibrating table, the use of which considerably decreases the reaction time. A carefully designed distillation unit is also described which allows the use of the technique at elevated temperatures. The diffusion technique can now be used as a routine laboratory procedure for the determination of blood ammonium; recent developments in methods are discussed. A new catalytic Kjeldahl method for nitrogen estimation is given. Among the substances which may be determined by the new methods are glutamine, monamine oxidase, histamine, cyanide, sulphide, phenols, methanol, isopropyl, alcohol, azide, methane, formaldehydogenic steroids, glycine, and acetaldehyde. Improved methods for the estimation of lactic acid in blood, of carbon monoxide, and halogens are also included.

Every analyst dealing with small quantities of material should be well acquainted with the microdiffusion principle and to them Professor Conway's book is virtually essential.

B. T. COMMINS

Books Received

(Review in a later issue is not precluded by notice here of books received.)

Pre-Employment Disability Evaluation. By William A. Kellogg. (Pp. xv + 155. 80s.) Oxford: Blackwell Scientific Publications; Springfield, Illinois: Charles C. Thomas. 1957.