

when viewed from a health and safety angle, equality between the sexes is possible, is not put. Perhaps this is not surprising when one reads in a paragraph headed 'Reducing Women's Workload' such items as introducing improved but cheap cooking and other household utensils and equipment, developing efficient agricultural tools and providing communities with light machinery for grinding millet or grain.

The trends described, however, add to the importance of the proceedings of a symposium on 'Health of Women at Work', organised by the Society of Occupational Medicine Research Panel. This has much relevance to occupational medicine in this country where, as elsewhere, demographic changes in society and the changed pattern of family life permit an increasing number of women to follow gainful employment.

The meaning of the Sex Discrimination Act is clearly defined by Miss (now Baroness) Lockwood and the work of the Equal Opportunities Commission which has, as one of its tasks, the reviewing of protective legislation. Attention by the Commission to evidence that sex discrimination is necessary, might help to prevent this country making the same errors as the United States where, one reads, women are attempting to carry out jobs well beyond their physical capacities and are failing to report their resultant back troubles because of their belief that they must be allowed to carry out jobs equal with men.

The difficult problem of how to protect the foetus *in utero* is made almost insoluble by the mass of new legislation relating to the employment of women, especially the Sex Discrimination Act of 1975, the Equal Pay Act of 1970, the Health and Safety at Work Act of 1974, and the Congenital Disabilities (Civil Liability) Act of 1976. What these Acts mean with regard to employers' liability is fully discussed by Barbara Calvert, QC. Other papers deal with the Health of Female Air Cabin Crew, Women Asbestos Workers, and Toxicological Problems Related to the Employment of Women. All are important and are of a high standard.

J. W. CUTHBERT

**Handling of Radiation Accidents, 1977. Proceedings of a Symposium in Vienna, February-March 1977, organised jointly by the IAEA and NEA (OECD). (Pp. 567;**

£27-30). International Atomic Energy Agency: Vienna. 1977.

This international Symposium on the Handling of Radiation Accidents, held in Vienna, was a follow-up to one on the same topic organised by the International Atomic Energy Agency in May 1969.

The meeting was attended by approximately 200 delegates representing 39 countries, and was organised in five broad categories: Radiation Accident Case Histories; Organisation and Planning; Training and Exercising; Technical Aspects of Accident Situation Detection and Assessment, and Accident Situation Analysis.

The Conference opened with an introductory paper by Dr Andrew McLean entitled 'Radiation Accidents, Reflections and Reminiscences'. This was an invited paper and is both an excellent statement of the present views and the past history of radiation accidents and an assessment of the future, based on the experiences which have led to quantitative guides for action to protect the public in the United Kingdom from the effects of such accidents. This paper also reviews the results of investigating 200 cases of actual or suggested radiation overexposure by chromosome analysis. It also reviews methods of accelerating plutonium excretion from the human body. The paper concludes with an outline of lessons learned from the reactor accident at Windscale in 1957. It is of interest that many of the points made in this opening paper represent a distillation of themes which recur frequently as other participants presented their contributions during the symposium. In addition, the fast reactor accident studies outlined in this paper are of particular interest.

The radiation accident case histories include a review of many unusual and unplanned events which occurred in the German Democratic Republic between 1963 and 1976. Another paper gives a detailed account of the Lucens Reactor melt-down accident in Switzerland in January 1969 and a remarkable description of plutonium wound contamination in France when the entire incident, apart from the first twenty minutes, was filmed live by a crew working nearby at the time.

There are a number of papers on the organisation and pre-planning for accidents involving fixed nuclear facilities or materials in the course of transportation, and on the role of the Employment

Protection Agency in the United States in the provision of protective action guides. Other papers describe the emergency plans already in existence for dealing with the transport of radioactive materials and action to be taken at various reactor locations for major accidents involving the general public. As expected, the majority of these plans are very similar in their requirements and in their concept.

Training programmes for staff and the exercises which have been carried out over the years in many facilities, particularly in the UK and in the United States, have provided valuable lessons and these are discussed in very considerable detail. An American paper in the training and exercising group describes the facilities needed for the management of radiation casualties. The value of improvisation and adaptability in emergencies is stressed rather than setting aside expensive equipment and personnel to be called upon only in rare events.

The final group of papers on Accident Assessment and Analysis deal with the technical aspects of accident detection and accident analysis. UK experience demonstrated the value of this procedure, in that a simplified system of measurement by mobile survey teams in the field, coupled with early backup, for detailed analysis of radioactive isotopes in air samples, provides flexibility in dealing with releases of mixed fission products from reactors.

In the final paper the role of human error as a factor in nuclear accidents was discussed. Forty incidents in which human error was judged to have contributed significantly to the event were reviewed by a French author; these were selected from a total of 1300 reported incidents occurring between 1972 and 1976. Only three of these had resulted in radiological consequences to individuals; the remainder were controlled by automatic protection systems. A detailed analysis showed that the two most frequent categories of human error were associated with operator faults and those following routine maintenance.

In summing up, the symposium Proceedings present an encouraging view of the nuclear industries' safety record and its state of readiness for dealing with future radiation accidents. The considerable resources devoted both to theoretical assessments or potential accidents and to the training of emergency personnel are clearly demonstrated. Equally, the persons giving the papers stress that there are no grounds for complacency because, even though the accidents or incidents which

have occurred had no major consequences, the potential hazards of nuclear plant remain, and continuing attention to emergency planning and exercising are essential in order to maintain the present position.

For those directly concerned in the study of accidents in the nuclear industry these Proceedings represent an invaluable group of papers which are well presented and are up to the usual high standard of the publications of the International Atomic Energy Agency in Vienna.

J. A. BONNELL

**Noise in Foundries.** (Pp. 32; £1.00). Health and Safety Executive. HMSO: London. 1978.

This report, from the Joint Standing Committee on Health, Safety and Welfare in Foundries, is directed at the operators of existing foundries and not the designers of new machines. In consequence it contains little by way of technical innovation. Its real value lies in the collection together of data and information relating to a specific industry in a form which is readily accessible to, and usable by, those persons responsible for health and safety in that industry.

Four general foundry processes are identified as always being hazardous, together with fettling and dressing which are considered as non-foundry operations. The noise control measures described are inevitably of the 'wrap it, box it or stuff it' approach. Actual examples and results are given which are well within the capabilities of most maintenance departments or fitting shops. Some ideas are remarkably practical and economic, such as the use of old conveyor belting for lining steel chutes and the application of expansion silencers to pneumatic exhausts to avoid clogging by sand. The inclusion of details of some schemes which have failed is especially useful.

Criticism of a report based on established practices is difficult, but a few points were noted. The use of a tripod to mount a sound level meter may avoid the relatively minor errors due to reflections from the observer's body, but can lead to untypical estimates of the exposures of mobile personnel unless a very large number of spot readings are taken. When dealing with personal exposures as opposed to machinery tests, the noise pattern over the whole work area should always be investigated. Noise-attenuating enclosures should not be placed 'as near

as possible' to the source, as acoustic coupling can occur due to the springiness of the intervening air, particularly with low frequency sources such as reciprocating compressors. Rather than just making numerous references to the 1972 Department of Employment Code of Practice, an opportunity has been missed to update some sections, and particularly the Appendices, in the light of subsequent developments. There is inconsistent use of the terms 'ear' and 'hearing' protection, even within the same paragraph.

Although the report has no legal status under the Health and Safety at Work etc. Act, it will undoubtedly acquire considerable significance as a statement of what is 'reasonably practicable' in both Statute and Common Law. It is therefore an important document for all concerned with foundries and allied operations.

W. I. ACTON

**Legal Aspects of Medical and Nursing Service. (2nd Edition).** By M. H. Whincup. (Pp. 88; £8.50 hard cover, £6.50 soft cover). Ravenswood Publications Ltd: Beckenham. 1978.

The first edition of this short book, volume 5 in the series Studies in Law and Practice for Health Service Management, appeared under the slightly different title of *Legal Rights and Duties in Medical and Nursing Service*.

One of the complaints of lawyers is that their books go out of date so quickly, but it is still unusual to see the second edition of a book on the law appear only two years after the first. Anyone who already possesses a copy of this book need not, however, feel constrained to rush out and buy this new edition. There have been few changes in the law within the scope of the book, and most of these have been minor. The majority of the text and the arrangement of the book also remain unchanged, the book's three chapters dealing with employment, the provision of safe working conditions and the civil liability of those in the medical service. The only major area of law which is likely to affect doctors and nurses which is not covered by the book is that of the criminal law.

Despite all this, while remaining very compact the book has increased notably in size. This is partly through the adoption of a new format, but the number of cases referred to has nearly doubled, and the text contains many more examples.

For instance the section on dismissal of employees, which in the first edition consisted mainly of a statement of principles, now contains several new pages illustrating their application.

Although most of the changes are small there can be little doubt that this new edition improves on the already high standard of the last, which it matches in accuracy and readability: and with no increase in price it offers comparatively better value.

R. A. PEARCE

**The Birth of Industrial Nursing.** By Irene H. Charley. (Pp. 224; £3.75). Baillière Tindall: London. 1954, reissued 1978.

There is a considerable amount of too-often repeated history in the early pages and large slabs of quotation and cosiness throughout this reissued book that are not, at first glance, encouraging. The temptation to cast it aside, however, should be resisted because reading it is well worth the effort.

Since 1954, when the book was first published, occupational health nurses have appreciated just how much Miss Charley and her contemporaries did for present-day occupational health practice. They were able to rally the support of physicians and others outside nursing to establish the need for training because they were committed and enthusiastic. They also seem to have been able to look clearly at other branches of nursing to observe all that they could offer to what was then called Industrial Nursing.

It makes depressing reading in parts because some of the simple problems discussed in the 1930s and 40s have still not been solved. Naturally, a few of the ideas expressed are now outdated but a number of the suggestions have been accepted and proved.

It would have been useful to bring the book up to date if only to show how slow the progress has been in occupational health nursing in the last 30 years.

Occupational health practitioners, whatever their training, should read this account of the courageous efforts to establish occupational health nursing on a sound professional basis. It is a lesson in gracious co-operative effort and explains something of what nurses in work places really aim to be.

D. RADWANSKI

**The Effects of Inorganic Lead on Behavioural and Neurologic Function.** (Pp.