Although it is claimed that a previous knowledge of the subject is not assumed, there are parts of the book which are intelligible only to someone with prior legal knowledge. Some legal concepts, such as volenti non fit injuria (voluntary assumption of risk), are introduced but explained only many pages later. Some cases, on their first appearance, are referred to as if they are old favourites well known to the reader (like the reference to Bourohill v Yung as 'the pregnant fishwife’s case' with no further description). Comments are made about other cases which can be understood only by those who are already familiar with their facts.

Contrasted with this, and despite the pressure on space, about four pages in all are spent in explaining a single case, Robinson v Post Office, while the points it covers could have been dealt with much more concisely. At the same time other topics, such as the availability of an action for breach of statutory duty and the contribution rules for social security benefits, are largely or completely neglected.

The book is also marred by an unusual number of careless errors. There are about a dozen in the table of cases. Among the errors in the text a Social Security officer is referred to as a Social Services officer, a Law Lord is stripped of his title and denoted to the Court of Appeal (with his name spelt wrongly, to boot,) and the Pearson Commission is said to be considering what compensation should be payable for anti-natal injuries.

It is to be regretted that although potentially useful this book cannot be recommended.

ROBERT A. PEARCE


Any study of the progression of pneumoconiosis, and consequent dysfunction is complicated by problems of subject selection, retirement, change of jobs to and from other dusty industries and the concurrence of other pulmonary disorders. This pamphlet, which attempts to relate progression of pneumoconiosis in foundry workers to conditions at work, makes a bold attempt to overcome these difficulties by limiting its objectives to a simple measurement of progression on two films ten years apart in subjects already selected because they had pneumoconiosis, and relating this to a subject’s occupation in the foundry. As far as it goes, it is possible to conclude that foundryman’s pneumoconiosis may progress, even after the man has ceased work, and that progression is more likely in the more dusty jobs. Moreover it states that progression is prevented if the worker wears an approved respirator and that the condition should be eliminated by proper dust control.

However, the limitations of this survey are considerable and the layout of the report is clear evidence that it was written by a committee rather than by an author. The format is such that 52 of the 72 pages are appendices and it would appear that not always have the same number of subjects been analysed by the various authors. The details of radiographic method (100 mm films were used) are not given until Appendix 6, where the comments of the clinicians are speculative and imprecise. The physiological findings are valueless and the actual estimates of dustiness are based on engineering inspection some six years after the survey finished.

This pamphlet is hard to read and its conclusions are of limited value. It is however a first attempt to measure progression of pneumoconiosis in the foundry industry. It is therefore recommended reading for those who plan further studies, providing as it does a useful survey of the difficulties and an object lesson in how not to present the results.

ANTHONY SEATON


In his paper ‘Experimental and Clinical Investigations for Assessing the Toxicological Hazards of Industrial Chemicals’ Professor Robert Lauwersys (Brussels) stresses the need to adopt a flexible, intelligent and experienced approach. He outlines guidelines which he uses to assess the data available for dimethyl formamide (DMF). This exercise leads him to recommend further long-term inhalation studies in animals and epidemiological surveys of workers exposed to DMF with emphasis upon liver function and porphyrin metabolism.

In the subsequent discussion section we are reminded that the same basic principles apply to all toxicological investigations, whether they be of industrial chemicals, drugs or pesticides. Plas are made for toxicological data to be made more generally available, for greater attention to the assessment of central nervous toxicity and to long-term effects of low exposure, and for precise documentation of studies to permit future re-evaluation should the need arise. Toxicologists are asked to advise legislators clearly about the merits and limits of current toxicological tests. Readers are asked to consider the logistical problems, how many industrial chemicals should be tested and to what depth.

Professor Irving J. Selikoff (New York) in his wide-ranging paper, ‘Perspectives in the Investigation of Health Hazards in the Chemical Industry’ examines criteria for setting priorities; experimental and epidemiological methods and the roles of industry, labour and government. Studies of large groups of occupationally exposed workers, particularly those exposed to widely disseminated materials should, he considers, receive high priority, as should studies of chemicals already suspect. In the discussion section attention is drawn to the difficulty in discovering how much of an individual chemical (finished or intermediate) is in use; to the need for involvement of an educated public in the evaluation of an acceptable risk, to the value of negative data, to the difficulty experienced in obtaining funds for such work and to the need to define clearly the sensitivity of the methods used when reporting a negative effect.

In the section on mutagenicity tests for the detection of carcinogenic activity the review paper by Dr Bartsch (Lyon) on the Salmonella test system is an excellent short résumé of the field.

The relationship between carcinogenesis and mutagenesis is explained and the advantages and limitations of in vitro test systems described. The point is made that, in preliminary screening tests, false negatives and false positives are probably unavoidable, but for a final test no false positives can be tolerated. Needless to say,
no satisfactory final test system (other than man) has yet been found. Examples are given of compounds found positive in recent years using the Ames Salmonella test, and that are now known to cause cancer in humans.

The importance of the cultural test conditions is stressed; vinyl chloride is found to be positive when tested in the gaseous phase only, and nitrosamines are found to be most reactive when included in liquid suspension or in soft agar.

Professor Sobels (Leiden) and Dr Vogel (Leiden) review the uses of Drosophilina mutagenicity screening. This organism has the advantages that a wide spectrum of genetic events can be studied and also that it has the mixed function oxidase system present in mammalian liver cells. Examples are given of indirect carcinogens showing mutagenic potential in Drosophilina.

The stage specificity of some mutagens is mentioned and this may indicate that compounds need to be tested at varying stages of the Drosophilina life cycle before one is assured of meaningful results. The sex-linked recessive lethal test is considered to be particularly useful in detecting mutagens, mainly because of its high sensitivity.

The final paper by Professor Loprieno (Pisa) discusses the single-celled eukaryotes, the yeasts, which can be studied in the haploid or diploid state, and in which a variety of genetic end-points can be examined. Perhaps the most useful of these is non-disjunction, since other test systems to examine this phenomenon are expensive and time-consuming.

The various types of assays are discussed and examples given of compounds tested and yeast strains used. It is acknowledged that pro-carcinogens are better evaluated using the Salmonella test system (Ames test). Like the Ames test, urine metabolites can also be assessed in this yeast test system.

In summary, those engaged in occupational medicine should find much of interest in this publication.

D. D. COZENS
M. RICHOLD


Interest in environmental lead contamination continues unabated and there seems no letting-up in the number of papers which are published on the subject.

The present booklet is an excellent summary of our knowledge to date. It is both clear and objective, and on this account would make an excellent starting point for someone coming newly to the subject.

The problem of dose-related effects is particularly well dealt with, and it becomes obvious from reading the book that it is naive to talk about a no-effect threshold, unless one specifies the effect to which one is referring. For example, a number of the stages of haem synthesis are inhibited by blood lead levels well within the so-called normal range, whereas higher blood lead concentrations are necessary for, say, anaemia or peripheral neuropathy to develop. Clearly, it is important to ensure that the intake of lead is not sufficient to produce frank clinical signs or symptoms, but we are not told in this book which, if any, of the effects observed in those who are apparently well, should also be avoided. The reason for this, of course, is that very little work has been carried out to determine whether continuous exposure to low levels of lead is, or is not detrimental to health. What work has been carried out has tended to concentrate on the behavioural abnormalities produced in children and here the indications are that these start to manifest themselves only when the blood lead concentration is in excess of 2-2.5 μmol/l (40-50 μg/dl). The results of the investigations are well summarised, but it should be noted that the evidence is still far from conclusive and this is certainly an area which merits further study.

Throughout the book one is made constantly aware of gaps in our knowledge, some of which may be filled if due notice is taken of the recommendations for further research which are given. For example, we need to know the contribution of the various environmental sources to the total body burden of lead with much greater precision than at present, since this is critical to the question of controlling intake (if this were to be thought desirable). In the occupational field it would be of interest to know the natural history of the subclinical neurological changes which some authors have reported; is slowing of nerve conduction velocity the first step along a road leading to more severe change, or does it recover when exposure ceases?

There is still plenty for the physician and scientist interested in lead toxicology to do, and one hopes that properly directed research, with less emphasis on the rather dreary duplication of earlier work will provide some answers for inclusion in the next edition of this very worthy book.

H. A. WALDRON


I find it difficult to express adequately my pleasure with this book. It is a model of clarity, careful selection of material, organisation and accuracy. It claims to describe the basics of audition at an introductory level. This it certainly does, but it goes well beyond that both in its text and by means of useful supplements, references and glossary. In their preface, the authors state their hope that the book is 'one that any professional who needs facts about audition will want to have readily available': their product more than fulfils their hopes.

Although containing quite a lot of mathematics, it succeeds in its aim to be comprehensible to a student with little mathematical training. It is profusely illustrated with figures, tables, diagrams and, most attractively, with microphotographs of the cochlear structures. It is thoroughly up to date.

The text is subdivided into three sections. There are three chapters on the physics of sound, four chapters and two appendices on anatomy and physiology of hearing, and six chapters on psychophysics and auditory perception.

Though quite excellent, as indicated, the book contains minor errors. These do not detract from the book's value, but are worth pointing out to the intending purchaser. In Table 8.2, the caption should refer to 45 trials out of 700 (not 100). On page 117, there is some confusion between percentages, P(C), and proportions, p, such that both of the equations given are incorrect by a factor of 100. In Figure 13.3, the ordinate is incorrect since a pitch 1000 mels (not 100) should correspond to a frequency of 1000 Hz; in fact, the vertical scale values should read 0, 1000, 2000, 3000 mels (not 10, 100, 1000, 10 000 mels).

I am most glad to have had the opportunity to review this book (and thereby acquire a copy for my own use). I shall certainly recommend it to my own students and for our Departmental and University libraries. It should find great