chemically induced damage to the DNA of humans, but the problem is to decide which of the available monitoring techniques provide the most meaningful and reliable data. This is illustrated by the following quotations abstracted from separate chapters of the book:

'The establishment of hygiene standards that reduce exposure to a level that will not produce chromosome abnormalities is itself a reasonable step' (Purchase).

'Some mutagenic carcinogens ... induce large numbers of SCEs (sister chromatid exchanges) at doses far lower than those required to produce measurable increases in ordinary chromosome abnormalities' (Wolff).

Would it not therefore be equally reasonable to use SCE analysis to confirm those hygiene standards? The possible dangers of such a step are illustrated by the following two quotations:

'SCEs are not correlated in any consistent fashion with the increased aberrations seen in human diseases' (Wolff).

'The findings (of four separate research groups) suggest that SCEs could be the result of fundamentally different cellular events and lesions than are chromosome aberrations' (Fischer *et al.*).

Similarly, the occasional non-relationship between effects *in vitro* and those observed *in vivo* is illustrated by a comparison of the two chapters devoted to 8-methoxypsoralen-ultraviolet therapy. In the case of this particular therapy, effects observed *in vitro* are not realised in humans, even under conditions of moderately high exposure (Faed and Mourelatos; Brogger *et al.*).

This book will prove invaluable to those currently involved in cytogenetic analysis and should be mandatory reading for those who are considering, requiring, or resisting the conducting of such studies in humans.

JOHN ASHBY

Origins of Human Cancer: Cold Spring Harbor Conferences on Cell Proliferation, Volume 4. Edited by H. H. Hiatt, J. D. Watson and J. A. Winsten. (A, pp. 602; B, pp. 701; C, pp. 586; \$45.00 + \$2.00 shipping and handling). Cold Spring Harbor Laboratory, PO Box 100, Cold Spring Harbor, New York 11724.

The growing appreciation of the limitations and cost of conventional treatment of cancer has led to the inevitable conclusion that cancer prevention must receive much more attention than it has in the past. As a response, in early September 1976, a conference was held at Cold Spring Harbor Laboratory, New York, and *Origins of Human Cancer* is a summary of this meeting. These proceedings, covering some 1960 pages, are divided into three parts.

Volume A starts with a fine introduction on the subject of human carcinogenesis by Sir Richard Doll. This is followed by sections, each devoted to a number of papers on a common theme, for example the effects of geography and genetic background, and changing patterns in cancer incidence. The section on the effects of occupation has a short paper on the carcinogenicity of chloroethers, the results of long-term and painstaking bioassays of vinyl chloride carcinogenesis, and useful summaries of the epidemiological evidence of cancer-inducing effects of metals. This is followed by sections on industrial and agricultural chemicals, air and water pollutants, and drugs, and emphasises the need for constant surveillance. The development of tumours of the female genital tract after prenatal exposure to diethylstilboestrol, and of adenomas of the liver in women taking oral contraceptives are only two examples of tumours associated with chronic drug usage. The carcinogenic effects of medical irradiation are summarised, and there are interesting papers on the role of diet in human cancer induction.

Volume B examines in detail the mechanisms of carcinogenesis, and particularly the role of carcinogens acting as mutagens which may require metabolic activation before they can exert their effects. The viral theory for the origin of human cancers is not as popular as it was in the past, the decline being partly attributable to the ascendancy of chemical carcinogenesis, the failure to isolate Type-C viruses in humans, and the questioning of the concept of immunosurveillance. Attention is given to the process of promotion as an oncogenic phenomenon and the need for further research into embryogenesis.

Volume C deals with cancer prevention, the difficulties of carcinogenesis testing and some possible dietary carcinogens. It concludes with public policy panels focussed on three case studies of substances that have been banned, partly or wholly,

in the United States (diethylstilboestrol, cyclamates, and dieldrin) in which the difficult choices to be met are discussed by representatives of industry and government, scientists and news media.

Origins of Human Cancer is the most complete account of human carcinogenesis to be published and must find a place in all cancer research laboratories. Large sections will be of interest to clinical oncologists, epidemiologists and specialists in industrial health, and at a cost of only 45 dollars for the set of three volumes, it is a real bargain.

R. G. B. EVANS

Occupational Diseases: a Syllabus of Signs and Symptoms. By E. R. Plunkett. (Pp. 350; \$22.95 + handling). Barrett Book Company: Stamford, Connecticut. 1977.

How do you write a book about occupational health? This question has exercised the minds of a number of people over the years and different approaches have been adopted by different authors. In essence two ways are most commonly used: the subject can be viewed as a description of the clinical syndromes associated with particular hazards (Donald Hunter's book fits this mould); or the author can concentrate on the practice of occupational health (Richard Schilling's book is of this genre).

A third way would be to look at occupational diseases as organ dysfunction and to write a book in the manner of standard clinical texts, reviewing occupational causes for respiratory disease, neurological disorders, etc. Some recent attempts to combine these different perspectives have led to bulky indigestible tomes which satisfy no-one, particularly the clinician interested in the differential diagnoses of occupationally related disorders.

An attempt has now been made to answer the clinicians' request. *Occupational Diseases: a Syllabus of Signs and Symptoms* is divided into three sections. The first lists the occupational causes of symptoms and signs from Abdominal Pain to Wrist Pain. Some entries, like Corneal Staining, catalogue only six causes, while Liver Damage boasts over one hundred. The second section is restricted to toxic causes of occupational illness and is another alphabetical review of substances from Abrin to Zirconium. The final section lists the common names for occupational diseases and their

clinical definition. Here, the reader has an opportunity to discover (at last) the causes of such conditions as Barley Itch, Cock Walk, Knife Grinder's Rot and Shoddy Fever!

Plunkett's book contains no detailed descriptions of any diseases; it is intended merely to provide the readers with list after list of occupational differential diagnoses. It is not, therefore, a book for the person wanting a textbook on the subject, but it provides the only readily available source of these lists. Anyone involved in teaching clinical occupational medicine should have a copy, and the practitioner may find it useful when confronted with a difficult diagnostic problem.

J. M. HARRINGTON

Notices

International Conference on Management and Control of Heavy Metals in the Environment

This Conference will be held at Imperial College, London, 18–21 September 1979. It is organised in association with the Commission of the European Communities, Institution of Public Health Engineers, Institution of Water Engineers and Scientists, Institute of Water Pollution Control, and the World Health Organization. Papers are invited in the areas of industrial waste management, health effects related to environmental and occupational exposure, metal forms and types, sources, distribution and pathways, domestic waste treatment, sludge treatment and disposal, advances in and critical assessment of analytical techniques. Abstracts of no more than 500 words should be sent to the secretariat by 14 February 1979. Contributed papers will supplement the programme of invited papers from leading world authorities, reflecting the views of industry, government, health organisations, and water authorities, together with university and other research organisations active in this field. Correspondence and abstracts should be addressed to the Secretariat, CEP Consultants Ltd, 26 Albany Street, Edinburgh EH1 3QH, UK.

Sixth International Advanced Course in Epidemiologic Methods

This course, which will be held at the Hotel Rantasipi, Hyvinkää, near Helsinki, 27 August–7 September 1979, is being arranged by the Institute of Occupational Health, Helsinki, Finland. It will have special reference to occupational health problems, and is open to research workers from all countries. The main lecturer will be Professor Olli S. Miettinen, MD, PhD, a graduate in medicine from the University of Helsinki and in biometry from the University of Minnesota. Professor Miettinen, who is now a professor of epidemiology and biostatistics at Harvard University, Boston, Massachusetts, has taken part in several large-scale epidemiological projects, and has also been responsible for many postdoctoral courses in Finland, the Netherlands and the USA, besides being the author of numerous methodological papers. Members of the Department of Epidemiology and Biometry at the Institute of Occupational Health will act as assistant lecturers. The course is particularly designed for those interested in occupational health, and comprises lectures and exercises on epidemiological methods, such as study design, sampling, control of confounding, and data analysis. Participants are encouraged to bring their own problems for discussion during the course, and should be familiar with *Epidemiology, Principles and Methods*, by MacMahon and Pugh, published by Brown and Co, Boston, 1970. A maximum of 40 participants will be accepted, all of whom should possess a good understanding of English, together with an academic degree in medicine, statistics, sociology, engineering or a related field, and should be familiar with general research methodology. The course fee is US\$500, excluding meals and accommodation, which will be about US\$40 per day. Application forms should be sent by 15 March 1979 to the course secretary, Outi Teperi, Institute of Occupational Health, Haartmaninkatu 1, SF-00290, Helsinki 29, Finland. For further information, contact Mr Timo Partanen, Department of Epidemiology and Biometry, at the same address.

Australian and New Zealand Society for Occupational Medicine

The Australian and New Zealand Society for Occupational Medicine is holding an International Meeting at the University

of Queensland, Brisbane, Australia, from 16–18 May 1979. The themes of the meeting are Industrial Medicine in a Tropical and Subtropical Climate, and The Future Course of Industrial Medicine in Australia and Overseas. The organisers would be happy to consider papers from medical practitioners and others who are involved in industrial health. For further information, please contact the Convenor of the 1979 Meeting, B. A. Smithurst, ANZSOM (Queensland Branch), c/o Day Hospital, Prince Charles Hospital, Rode Road, Chermiside, Queensland 4032, Australia.

International Congress of Neurotoxicology

This Congress will be held at the Villa Ponti, Varese, Italy, 27–30 September 1979, and will consist of invited lectures, free communications and poster sessions. Sessions have been planned to discuss toxic reactions of the nervous system to environmental and industrial chemicals; advances in the biology of alcoholism; therapeutic agents as CNS toxicants; and selected aspects of clinical and experimental neurotoxicology. A limited number of communications strictly bearing on the subject of the Congress will be considered by the Scientific Committee: the deadline for the receipt of abstracts is 30 April 1979. For further information, please contact Professor L. Manzo, Department of Medical Pharmacology, University of Pavia, Piazza Botta, 10, 27100—Pavia, Italy. Telephone (0382) 36765.