
BOOK REVIEWS

Introduction to Nuclear Science by M. N. Sastry (Affiliated East West Press Pvt. Ltd., 104 Nirmal Towers, 26 Barakhamba Road, New Delhi 110001) 1984, Price Rs. 17.00.

The book begins with an interesting chapter on historical introduction, though the author has not mentioned the genesis of unit of radioactivity namely Curie and Ores of radioactive minerals. The second chapter deals with the nuclear structure. Packing fraction could have been mentioned along with mass defect. The binding energy curve with sharp peaks in the light nuclide region would have been more appealing. There are some printing errors in pages 32, 40, 49, 66 and 67. The description of cross section in page 51 is not clear particularly while indicating the dependence of cross section on the energy of particle. On page 67, the non conservation of spin during β -decay could be explained with an example and subsequently the experiment for the identification of neutrino may be described. Chapters 6, 7 and 8 deal with the interaction of radiation with matter, detection and measurement of nuclear radiation and nuclear fission respectively. In chapter 9 on chemical and biological effects of radiations, the S.I. unit for the radiation dose could have been mentioned. In chapter 10 on the application of radionuclides, the radioisotope exchange, surface area determination are some of the topics left out. The photographs of scientists could be reduced in size and presented. In addition to physical constants and conversion factors which are given in pages 160 and 161, nuclear data on relevant fundamental particles may be given.

The referee welcomes the book and hopes the above suggestions will receive the attention of the author in future editions. The book is quite good at introductory level. There is a great need for a book on nuclear and radiochemistry for postgraduate students. I am sure the author will be able to bring out such a book.

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Annual Review of Public Health by Lester Breslow, Published by Annual Reviews Inc., 4139, El Camino Way, Palo Alto, California 94306, USA, Vol. 5, 1984, pp. 473, Price : USA \$27-00, Elsewhere \$30-00.

Public health has now permeated into varied aspects of human behaviour besides its specific application in the control of diseases. The extent of this impact is well brought out in the reviews presented in these volumes (Vols. 1-5). Broadly the topics covered in this volume (Vol. 5) can be grouped under behavioural aspects of health, epidemiology/biostatistics, specific diseases and health services.

The use of economic incentives to encourage positive health behaviours and the wide range of incentives now in operation are critically explored in 'Economic incentives for health'. Public health, has turned more and more in recent years, to the social and behavioural sciences for the better understanding of the forces shaping life style, conditioning health habits and providing support or pressure for the adoption of healthy or unhealthy behaviour. Behavioural change strategies for health enhancement are highlighted in 'Modifying and developing health behaviour'.

Integration of genetics and epidemiology can contribute substantially to public health, is the theme of 'Genetic epidemiology'. The increasing application of 'Decision analysis' to choices in the domain of public health, the need for a cautious approach in evaluating the results of 'Stress and disease' the association of the complex behaviours termed 'Type A behaviour pattern' with poor cardiovascular health, the relationship of social networks to disease states, the influence of biological factors and several aspects of life style on the observed sex differences in morbidity and mortality are featured in the reviews.

A number of reviews cover the area of 'Health services'. These in general, deal with the American scene. The sharp federal cuts and reductions in medical aid, in producing crisis in health programmes of many states is featured in 'Recent trends in the evolution of local public hospital'. The effectiveness of the two major policies implemented to contain the increase in hospital costs in USA is discussed in 'Hospital cost functions'. Interpretation of trends in illness and disability in USA, epidemiology of athletic injuries in North America, the current activities and programmes in USA in safety and efficacy assessment

and 'Alcohol control and public health', discussed in various reviews are informative and are of topical interest.

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Mycotoxins in Food & Feed, Editor Prof. K. S. Bilgrami, Associate Editors T. Prasad & K. K. Sinha. (Published by Allied Press, Bhagalpur,) November 1983, 315 pp. + XVI, price Rs. 225.

Thirty five articles are presented at the All India Symposium on Mycotoxin problems in Food and Feed held at the Post-graduate Department of Botany, Bhagalpur on February 11 and 12, 1983. The Symposium was financed by the UGC and INSA. The papers were presented mainly under the following heads: (i) natural occurrence of mycotoxins (ii) the effect of mycotoxins on plant and animal systems, (iii) bio-synthesis of mycotoxins, and (iv) the control of mycotoxins. All the papers presented are very well reviewed. These articles deal with natural occurrence of aflatoxins in paddy, maize, sorghum, dry fruits and spices grown in different parts of the country. Aflatoxins in storage and standing maize crops as well as the implications of these mycotoxins on leaves and stalks of maize are also discussed.

The Symposium also contains five papers on the effect of mycotoxins on animal systems including two in the laboratory animals, two covering bovine species and one general. The articles give a good account of the causative agents, species affected and lesions caused in various animals including man. Specific changes caused in important target organs of animals are well tabulated. One article shows that buffaloes and cattle eating forages contaminated with mycotoxins suffer from pathological lesions in the body extremities and high incidence of such lesions are noticed especially in buffaloes. Another article reveals that these mycotoxins not only affect the health of the ruminants, but also the digestibility of food stuff in rumen leading to inefficient microbial digestion. The mycotoxins can alter (increase) the synthesis of catecholamine in brain and liver of mice significantly and reduce the weight of important organs of the rats fed on maize contaminated with fungi. Surprisingly, the Symposium does not include any one from the National Institute of Nutrition where good work on mycotoxins is underway. Nevertheless, the compi-

lation will be useful to all who are interested in the study of mycotoxins.

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Annual Review of Neuroscience by W. M. Cowan, E. M. Shooter, C. F. Stevens and R. F. Thompson. (Annual Reviews Inc., 4139, El Camino Way, Palo Alto, California 94 306, USA) Vol. 7, 1984, pp. 494, Price: \$30/-

This Volume starts with the highly interesting prefatory chapter written by the great Neuroscientist Janos Szentagothai, Budapest, discussing the issues on Neuron Networks and Self-Organization.

Like its predecessor volumes, this volume also contains reviews of outstanding quality on a wide range of frontiers advancing in the neuroscience.

The reviews cover the themes of: Intracerebral Neural Implants (Bjorklund and Ulf Stenevi); New Neuronal Growth Factors (Berg); Gonadal Steroid Induction of Structural Sex Differences in the Central Nervous System (Arnold and Gorski); Cell Death in Invertebrate Nervous Systems (Truman); Endogenous Pain Control Systems (Basbaum and Fields); Endogenous Opioids (Akil *et al.*); Multiple Mechanisms of Withdrawal from Opioid Drugs (Redmond Jr. & Krystal); Control of Autonomic Responses Associated with Emotion (Smith and DeVito); The Neural Basis of Language (Damasio and Geschwind); The Analysis of Stereopsis (Gian Poggio and Tomaso Poggio); The Accessory Optic System (Simpson); Proteolysis in Neuropeptide Processing (Peng Loh *et al.*); Intracellular H⁺ on the Electrical Properties of Excitable Cells (Moody Jr.); Learning and Courtship in *Drosophila* (Quinn and Greenspan); Development of Superior Colliculus (Stein); and Modulation of Cell Adhesion during Induction, Histogenesis, and Perinatal Development of the Nervous System (Edelman).

Every review in this Volume has been thoroughly prepared with an outstanding quality. The volume will be of exceptional use to those who are working in the different fields of neuroscience and molecular neurobiology.

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