BOOK REVIEWS


In the early chapters the numerous sources from which carbon monoxide is derived are emphasized; it is considered the most widespread of all poisonous substances.

It is noted that the rate of formation of CO haemoglobin is rapidly increased by the fall in atmospheric pressure. In long railway tunnels steam locomotives may form high concentrations of carbon monoxide from which fatalities have been reported. However, in some cases of death from the supposed effects of carbon monoxide the real cause has been asphyxia from carbon dioxide liberated from fire extinguishers. There is nothing known to suggest that carboxyhaemoglobin can be further oxidized and, though death from its massive formation is often proved, there are cases in which other toxic products of combustion, in minute quantity and not detected chemically, are the real cause of death. If CO is the cause of death, then this occurs by its power to fix haemoglobin, and death is due to anoxaemia. At necropsy many lesions are found in the globus pallidus, a part very susceptible to this poison. In acute poisoning death may be so rapid that the victim seems to have been unaware of his fate and to have made no effort to escape. Cadaveric rigidity sets in rapidly. In less severe cases there is rapidly developing confusion, titubation, euphoria or anger. The coincident effect of other noxious factors must not be overlooked. Some cases of acute poisoning, perhaps with coma, recover but after an interval display signs of permanent cerebral injury. In acute poisoning lumbar puncture sometimes shows evidence of haemorrhage or leucocytic reaction.

In chronic poisoning the findings seem to vary according to whether there is continuous exposure to a moderate concentration or intermittent exposure to higher ones. So in some cases there is an increase in the haemoglobin and erythrocytes whereas in others, presumably from damage to the blood-forming tissues, anaemia is reported. Normal people with no known exposure have traces of CO haemoglobin in the blood. Headaches, asthenia, and vertigo are said to be symptoms of chronic intoxication.

It is claimed that oxygen inhalation benefit victims of chronic poisoning and in acute cases should supplement artificial respiration. The value of carbogen and of mouth-to-mouth and mouth-to-nose respiration is discussed. A very good bibliography is provided, and the arrangement of the book is excellent so that this book further enhances the reputation of the authors. The omission of an index is to be regretted.

G. C. Pether


It says something for the development within this field that the author in the foreword can state that 30 years ago not one organophosphorus compound with anticholinesterase properties had been characterized with certainty, whereas now thousands of compounds are known. Many of these are used as insecticides and some as auxiliary compounds in industry (oil additives, plasticizers), while a few are known as potential weapons in chemical warfare. This enormous development covering chemistry, biochemistry, physiology, pharmacology, entomology, etc. may be difficult to follow even for the scientist working daily with organophosphorus compounds. It must be still more difficult for the beginner or for one who only occasionally meets these compounds in industry, in the laboratory, or during their practical use. In the present monograph the object of the author was to collect as much as possible of the relevant basic knowledge and to summarize the enormous literature of applied knowledge.

The book is not a toxicological handbook but a comprehensive account of the background knowledge necessary to understand the chemical and biochemical reactions of the organophosphorus compounds. This intention of the author is achieved and the book provides a good introduction to these problems. The author's personal knowledge of the subject from many years of research experience in industry and in an important toxicology research unit gives the account a special value.

At first sight the book is not easy to read, mainly because of an almost pedantic thoroughness in the presentation of the arguments and the many footnotes, but the reader who is prepared to do some work himself will be rewarded.

The introductory chapter is a good summary of the whole subject and at the same time indicates where the different problems are dealt with.

In the first part of the book concerning the chemistry of the organophosphorus compounds the great knowledge of the author is immediately apparent. The account of the nomenclature is of value, but, with the author, it must be regretted that the Scandinavians have shown a separatist tendency here. The orientation in the electronic theory will be of value to many readers. The importance of purification of the compounds is rightly emphasized since the presence of very small amounts of impurities, which can be thousands of times more biologically active than the compound itself, can give very misleading results. On the other hand, it must not be overlooked that
BOOK REVIEWS

experiments performed with compounds of the same degree of purity as is found in commercial preparations can be of value for health authorities in the assessment of the risks in the use of the compounds.

The second part of the book includes the biochemistry of the organophosphorus compounds. It describes their effect in vitro and in vivo on cholinesterases and other enzymes together with the important features concerning the metabolism in vitro and in plants, soil, insects and mammals, whereby activation, detoxification, etc. can take place. The whole account is both authoritative and objective.

The third part includes the pharmacology in mammals where the author is not on his own ground. A good deal of work with the literature seems to have been done to get the account complete. For the reader not trained in pharmacology a good and helpful introduction is given. The description of the effect on isolated organs and in the mammalian organism is well balanced. A pharmacologist would possibly have been less schematic, but pharmacologists can also gain from reading these chapters. The necessary section on Therapeutic Methods, and Symptoms, Diagnosis, and Therapy in Man will seem to many concerned with practical therapy to be rather theoretical. Most clinicians are little influenced by results from animal experiments in deciding on correct therapy; they are guided by clinical effects in man.

The chapter on Abnormal Effects, especially the unexplained paralytic effects, is necessary for completion, but one must agree with the author that it was difficult to write because of the controversy that still bedevils the subject. Pharmacology in insects is adequately given in a special chapter.

The glossary and subject and formula index are good and render the use of the book easy. The necessity to distinguish between Common Names Used in the Book and Other Common Names is not easy to see, but all four sections of the glossary add to the value of the book because so many different names are used in the literature. The compound Butonate (butyrylated Dipterex) is mentioned in the subject index and on pages 221 and 222 in the book but is not to be found in the glossary.

Apart from a few minor criticisms the book is found to give a readable, valuable, and well balanced account of the chemistry, biochemistry, and pharmacology of the organophosphorus compounds with a special interest to those who want to study the background of the effect of these compounds in plants and animals.

E. Poulsen


This is a 70-page report of a symposium in which eight authors summarize their opinions—sometimes conflicting—about the prevention and management of chronic bronchitis. A limited number of references to more detailed articles are given.

In the first chapter, The Pathological Background, Dr. Lynne Reid describes the role of mucus hyper-secretion as a precursor to infection in the aetiology of the disease. This is accepted by Dr. Toussaint in his chapter on Environmental Factors—a Preventive Approach, in which he states that in the early stages the patient's main need is education—about smoking, air pollution, breathing, bronchial spasm, etc. Dr. Edwards in his chapter on Early Bronchitis, after discussing its epidemiology, suggests that the essential predisposing process is infection. In the management of early cases he therefore says that the basis of all treatment must be the use of antibiotics.

Dr. Citron, after giving a definition of chronic bronchitis and of asthma, describes their relation to each other and the role of allergy in both. In The Psychological Approach, Dr. Hambling discusses both a person's emotional reaction to his disablement and whether emotional stress plays any part in initiating and maintaining chronic bronchitis. In Management of the Advanced Case, Dr. Hurford describes treatment between exacerbations and of acute episodes. He also suggests that physicians should ask themselves how far they should go before using zealous or heroic methods of treatment for respiratory failure.

Not surprisingly, one of the most interesting and provocative chapters is by Dr. Meiklejohn on Industrial Rehabilitation. Under this misleadingly simple title, he warns us that it has taken nearly 300 years for empirical observation of chronic bronchitis to give way to scientific investigation. He gives in the text a bibliography dating from 1661 to 1861. He describes the critical importance of a chesty child's first job and criticizes the lack of integration of advisory and health services for young people. He questions the standards of pre-employment examinations and categories to be referred to the Pneumoconiosis Medical Boards. He makes suggestions for improving the working environment, while accepting the prime importance of atmospheric pollution and smoking in the aetiology of chronic bronchitis. He concludes with a short section on what would be expected in the narrow sense of his title. Calculated, but not too finely calculated, risks must be taken in keeping a bronchitic at some work. He suggests that chronic bronchitics can be best accommodated in sheltered employment in open industry, which would only be possible if industrial health services were expanded.

This is a useful quick review of chronic bronchitis. It lacks a description of a comprehensive plan for the more active prevention of bronchitis, which is not surprising as we still have not got one.

C. H. Wood


This book contains such a large amount of lucidly presented material that it will be of interest to almost everyone engaged in any branch of experimental cancer research and there is also much that will interest the clinician. In particular, workers in environmental and industrial medicine will find that the author has been constantly alive to the importance of this field and the