The succeeding chapters show how auditory fatigue, presbycusis, and malingering are three of the chief of many pitfalls in routine audiometry which may result in inaccurate interpretation of the results obtained.

The chapter following deals with the handicapping effects of deafness. The greater part of its subject matter, such as the psychological effects of hearing loss, individual reaction to deafness, effect of deafness on speech, and evaluating effects of deafness, can have very little appeal to the majority for whom the book is intended. The same criticism applies to the next chapter which discusses certain aspects of the interpretation of hearing tests.

In the last and final chapter the roles of the industrial physician and otologist are presented in detail. Paragraphs are devoted to the estimation of potential noise hazard; responsibility for the performance of noise and hearing surveys, and their evaluation; the timing for the removal of an employee from a noisy job because of hearing loss; and responsibility for supervising the distribution of ear protectors.

The list of references is brief but well chosen. The index is excellent.

In spite of the many criticisms offered, the book as a whole is well worth reading and studying in detail.

H. D. PAVIERE


The late Sir Ernest Kennaway once expressed the opinion to your reviewer that the most profitable approach to the problem of human cancer lay in the study of man rather than of animals. Coming from a man who had so greatly advanced the subject of experimental cancer, this was indeed a revelation.

Although the experimental approach is still used to no less extent, there is an undoubted drive nowadays towards the study of the endogenous and exogenous factors but no real success can be attained in the study of cancer in man unless full data are made available. The difficulties are, of course, manifold but in no sense insuperable. Compulsory notification of all cancer cases during life with as much detail as can be obtained is a sine qua non. The important information relates to the lifetime of the patient and its collection will most usefully follow carefully designed notification form. Voluntary notification schemes in Britain in the last 30 years may have had a measure of success but ultimately the method must be compulsory.

In the volume under review it is quite obvious that Chiurco, who is a senior surgeon, is a protagonist of the statistical approach to human pre-cancer, cancer, and industrial cancer. In the 1,200 pages of text and many hundreds of world references as well as coloured charts of the propagandist type, large numbers of case histories and radiographs of pulmonary tumours, national and world statistics of cancer incidences in different organs, the author has contrived (with some collaboration) to gather together a great deal of information. Thus, to the question of how many people die of cancer in the world annually he gives del Vecchio's (1956) figures of 1-65 millions to 3-25 millions. If we take Tizzano's (1951) estimate of world population at some 2,400 millions, the crude mortality rate would appear to be some 700 to 1,400 per million. Del Vecchio's estimate of the total number of cancer cases per year is based on the belief that every cancer death is an index of two to three cases of cancer, so the number of cases would be between 3-3 million and 9-75 million in any one year, which at the upper limit would mean four cancers per 1,000 people on earth. This guess is probably not far from the truth.

The estimated mortality from cancer in the following continents, based on the sources of more reliable statistics in 1952, is as follows:

<table>
<thead>
<tr>
<th>Continent</th>
<th>Approximate Cancer Mortality per 100,000</th>
<th>Probable No. of Cases on 3:1 Theory in 1952*</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America, Canada, U.S.A.</td>
<td>65</td>
<td>400-500</td>
</tr>
<tr>
<td>Salvador</td>
<td>145</td>
<td>500-600</td>
</tr>
<tr>
<td>Europe</td>
<td>75</td>
<td>200-300</td>
</tr>
<tr>
<td>Asia</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Oceania, Australia, New Zealand</td>
<td>75</td>
<td>400-500</td>
</tr>
</tbody>
</table>

*Added by reviewer.

Chiurco stresses L'Eltore's division of the world into four zones for comparing cancer mortality and other
BOOK REVIEWS 301

data, and it is perhaps worth while recalling from his table some of the suggestive general facts already agreed upon or worth pursuing further.

It is clear in general terms that a price must be paid for the advantages of high industrialization, high incomes and education, transport facilities, high efficiency of public health, and low general mortality. That price appears to be a high cardiac mortality and a high cancer rate.

Almost half this large volume is devoted to cancer of the respiratory tract, and the author has gone to great lengths to present data from most countries on the great increase in lung cancer, absolutely and relative to total cancer incidence, the much greater incidence in men than in women, the enormous increase in known and possible lung irritants resulting from transport and industrialization, and the relation to tobacco. He also gives the terrifying estimates of Coruzzi that (in round numbers) some 50 million people use cocaine, 100 million betel, 300 million hashish, 400 million opium, and about 800 million tobacco—all as addictions. The tobacco story is told with a certain ferocity but the author has not lost sight of the possibilities of additional exogenous factors in the environment, and, in the matter of urban conditions, conforms to the studies of Stocks in Britain and the very recent reports from Cincinnati by Miller et al. (synchronous carcinogenesis and co-carcinogenesis). The author believes (p. 610) that there are in the body, otherwise in physical, hormonal, etc. equilibrium, a very small number of latent cancer cells which can erupt into activity from a factor X which may be endogenous or exogenous in origin.

In a 50-page discussion of occupational bladder tumours, the author presents a rather mixed-up story and insists still in attributing the condition to amino-nitro derivatives, in spite of absolutely no evidence that the nitro group has any place in the aetiology. The statement is also made that \( \beta \)-naphthylamine and benzidine and their homologues are the most powerful bladder carcinogens. This is not so.

It would, we think, have been unjust to deal summarily with this book, as indeed, has been done by at least one American reviewer, Chiurco’s volume strikes one rather as the work of a teacher who has included too much and repeated too much, but has certainly given the reader much to think about. As is so often the case in Italian textbooks it is frequently an exasperating task to find text references in the bibliography.

M. W. Goldblatt


This is the proceedings of the second of a series of conferences arranged twice a year by the Faculty of Medicine at Nancy with support from the High Authority of the European Coal and Steel Community.

The conference was devoted to three aspects of respiratory physiology relevant to the study of chronic lung disease: first, alveolar ventilation and gas exchange at rest; second, ventilation during test exercise; and third, the effects of oxygen breathing at rest and on exercise.

Each session was nicely balanced with papers describing the normal responses preceding others on the corresponding change in disease. They were followed by discussion.

In all there were 20 contributions of fairly even quality, eight from Nancy and the rest equally divided between Paris, the Low Countries, and Professor Fleisch’s department at Lausanne, Switzerland. These and other countries on the Continent were represented in the discussions which were critical and well-informed and must be a most valuable part of the proceedings.

The first session began with methods for estimating arterial carbon dioxide tension needed in the calculation of the resting alveolar ventilation. This is of value in assessing the degree of respiratory compensation in patients with an elevated arterial P\( \text{CO}_2 \) due to respiratory insufficiency. Such subjects often have a one second forced expiratory volume of less than 1.2 litres.

The session ended on the subject of arterial hypoxaemia in iron workers with pneumoconiosis. The suggestion is made that much of this is due to “venous admixture” or dilution of fully oxygenated blood with what is effectively venous blood from alveoli which are perfused with blood but poorly ventilated with air. More recent work points in the same direction (e.g., H. L. Motley, 1958, Fed. Proc., 17, 114). However, there are a number of complicating factors, some of them raised in the discussion, which must be considered in relation to this interpretation and it is to be hoped that the subject will be considered again later this year at the next conference in the series.

The second session was concerned with ventilation during exercise. For a given level of exercise the ventilation is higher with advancing age, lack of exercise, and simple and complicated pneumoconiosis (P.M.F.) than it is in young normal subjects. In subjects with P.M.F. all these factors tend to operate together.

The third session was on reactions secondary to inhalation of oxygen in concentration greater than 21%. A number of useful points are made but none more pertinent than this one with which Professor Sadoul opened the discussion which followed:

“Ni la saturation d’oxygène, ni le taux de CO\( \text{2} \), ni l’insuffisance ventilatoire évaluée par la spirométrie, ni l’augmentation du volume résiduel ne semblent en corrélation étroite avec l’abaissement de la ventilation observée lors de l’hypoxie.”

The conference was clearly a success. To one physiologist reared in the Anglo-Saxon tradition it is especially interesting as indicating a trend away from spirometry and oximetry which have dominated respiratory physiology on the Continent over the past decade. However, we have not yet reached unanimity—witness the different versions of the alveolar air equation on pages 76 and 81, and it is a pity that the editors did not secure a consistent terminology amongst their contributors. The papers themselves are eminently readable and are provided with French, English, and German summaries. One misprint—75% instead of 64% in the English summary on p. 85—is a trap for the unwary. The proceedings make a useful contribution to the applied physiology of chronic lung disease.

J. E. Cotes