

## Book Reviews

**Pathology in the Tropics**, by G. M. Edington and H. M. Gilles. Published by Edward Arnold. Price £25.

A new edition of this useful book deserves a warm welcome. New material on malignant tumours and viruses, and the bringing up to date of the original text, some chapters more so than others, has added 200 pages to the volume. The original aim has been maintained: to describe the pathology of diseases that are exclusive to the tropics, and also the peculiarities special to the tropics of some more cosmopolitan diseases. The approach is mainly systematic, and the first-hand autopsy experience of the authors will be particularly valuable to the many people to whom autopsy material of tropical diseases is not freely available. As would be expected the book is particularly good on African diseases, with excellent chapters on malaria, schistosomiasis, diseases of the liver and heart and the haemoglobinopathies. If some other chapters are not up to the same standard (the one on leprosy is not outstanding), they all contain much succinct information and the selected references number nearly 3000. The influence of epidemiology on disease patterns is very well done and there is adequate background information on clinical correlations and on parasitology. Immuno-pathology is not a strong feature as regards either the tissue or serological responses. The sort of evaluation of immuno-diagnosis that is given for amoebiasis ought to be extended to other parasitic diseases. The book is well produced, though the illustrations are no more than adequate, and nothing has been done about the rather chaotic headings.

Despite a certain unevenness this book is a commendable achievement. Usage of the first edition has shown that its strength far outweighs its weakness, and this second edition is a worthy successor. It is a valuable source of information for pathologists both in the tropics and elsewhere which deserves a place on the shelves of most pathology departments. The book published by Arnold which the reviewer has seen costs £25, but it is understood that a cheap paperback edition is available at £8.50 through the English Language Book Society in most areas of the tropics.

*D. S. RIDLEY*

**The Memories and Reflections of Dr Gerhard Armauer Hansen**, translated by G. A. Hansen and with a foreword by Frederick B. Watt. Published by German Leprosy Relief Association, Würzburg, 1976.

For this English edition of “Memories and Reflections”, written in Norwegian by Dr Hansen in 1912 shortly before his 70th birthday, we have to thank Mr Frederick B. Watt, a Canadian writer, and Mr Gerhard Armauer Hansen, a business executive and grandson of his famous namesake. They first met as naval officers during the Second World War and continued their friendship during the years that followed. It was in 1972 that the idea took shape that the two of them should combine to translate Dr Hansen’s book, and the result of their labours appeared in print 4 years later.

The reader is greatly indebted to Mr Watt for his foreword to the book (consisting of 23 pages) in which he describes some important personalities and events which are omitted from Dr Hansen’s story: his two marriages (his first wife, who was the daughter of the celebrated Dr Daniel Cornelius Danielssen, dying of T.B. 6 months after the marriage); his son Daniel, who

became a doctor and took up leprosy work in Bergen; the famous trial in 1880 when Dr Hansen admitted having inoculated a patient with leprosy material without having obtained permission to do so; and it is from Mr Watt's pen that we learn that Dr Hansen participated in Nansen's Polar Expedition of 1876-78, and that he wrote a book on Darwin in 1886.

Dr Hansen begins his story with his childhood in Bergen, and goes on to describe his life as a University student in Oslo where he had to combine his studies and athletic pursuits—of which gymnastics was a favourite—with work as a tutor to enable him to meet his expenses. As he puts it, "With my father having ten sons to bring up and no money to spare, I naturally had to earn my own way as a student". He particularly enjoyed teaching in the Anatomy Department and, later, coaching in Medicine. He took his duties seriously, and describes how his regular routine would be to get up at 5.30 each morning in order to complete 2 hours of work before proceeding to University, and his working day would continue to 8 p.m. However, he enlivens his account of student days with perceptive descriptions of teachers and fellow students.

On qualifying in 1867 he spent a year as an intern before taking up an appointment in the Lofoten Islands, and he makes many pertinent observations on the problems besetting a Norwegian fisherman's life. It was on his return to Bergen that he was appointed to the leprosy hospital and his career in leprosy began. Within a year he published his first paper on the disease, the result of which was a stipend to travel abroad to further his studies. His travels first took him to Germany, where he studied microscopy in Bonn, and he writes of his impressions of the country and its people. He would spend convivial evenings with male companions, and he and his friends would spend Sundays tramping through the countryside and exploring lakes and forests. These were often very light-hearted trips, thanks to the local wine, for he describes one occasion when the good food and wine "left us sufficiently exuberant that we leapfrogged nearly 7 miles on the return trip to our steamer". He was in Bonn when the Franco-Prussian war broke out, and, joining the Red Cross, he arrived in Saarbrücken in time to witness the scene of carnage that resulted from the previous day's battle; he saw further evidence of the tragic consequences of war in a military hospital in Heidelberg before leaving Germany for Austria. While in Vienna one of the most important events in his life occurred, and this is how he describes it:

"It began in ordinary enough fashion with my walking into a bookstore but when I came upon a copy of 'Natural Evolution', fate was at my elbow. The title itself challenged everything I had been taught about creation. I went home fascinated by my purchase and for 2 days read it to the complete neglect of my laboratory. Never had I read anything like it. The whole world stood out in an entirely different light than that which I had known. All I had been taught as a child collapsed as something unreal. The track on which my thought had formerly moved suddenly terminated and everything beyond was out of focus. There was, however, one compensation; my scientific searching had prepared me spiritually to absorb the mental shock of those days. . . . Later, after I had returned to Norway, I studied the works of Darwin in depth. They became the foundation of my outlook on life."

His stay in Vienna was followed by a visit to Venice before he returned to Bergen and leprosy work. At the same time he made a careful study of Darwin's writings:

"I now commenced to study his books thoroughly and from them reached the heart of scientific research and reasoning: to set aside every preconceived opinion and to diagnose from every approach that might have a bearing on an ultimate solution. Nothing I had previously encountered had so fertilized my thought and my work. My goal had become that of researching as open mindedly and honestly as Darwin had, to be as thorough and, at the same time, as cautious as he in arriving at my conclusions. My previous scientific experience had left me well prepared to accept his teaching."

During the next 2 years, in which he spent each summer in the country districts seeking new sufferers from the disease, he was increasingly drawn towards the concept of leprosy as a communicable disease, and the fact that this was a view generally held by the country folk in Norway probably encouraged him in his search for an infective agent such as a bacterium. The

remarkable thing (and Dr Hansen makes no mention of this in his book) is that at that time the concept of bacteria causing disease in humans was in its infancy, and pathogenic organisms such as the gonococcus and the bacilli causing tuberculosis, tetanus, diphtheria, anthrax, etc., were all discovered *after* 1873. Later in the book he mentions the profound impact that Pasteur's researches had on him, and it is very likely that Darwin and Pasteur, each in his own way, influenced him in his search for the cause of leprosy. He says nothing about the stains he used, nor does he tell us what we would like to know about the actual finding of an organism under his microscope, but says:

'At that time I had a remarkable work endurance. I could sit tirelessly for hours on end, focussing through the microscope with great enlargement. Soon I found sufficient cells that appeared suspiciously like bacteria. Then began a time of seemingly interminable testing. One day I was positive I had discovered the bacteria, the next day the magnificent certainty had collapsed and I would be back where I had started. It was always again and again and again. Finally, though, I wrote the first record of my research. I could say no more than that I had found bacteria in the knots of leprosy and that I thought they were the poison causing the disease. . . . The suspense through those years of searching was great but personal success was not the overriding issue. It was whether I could solve the twisted and unanswered questions surrounding the heart of the illness. Success would leave us more certain of the precautions to take against the scourge. It was obvious to me that we could do nothing, or next to nothing, against it if it were hereditary but that there was every promise of achieving eventual results if it were caused by bacteria and infectious.'

Characteristically he makes light of the episode of Neisser's visit to Bergen and subsequent publication in which he claimed to be the discoverer of the leprosy bacillus, except to record that his chief, Danielssen, was "absolutely furious".

In 1888 Dr Hansen went to the U.S.A. to observe the leprosy situation in the descendants of Norwegians who had emigrated from Norway:

"Approximately 200 Norwegian lepers had immigrated there and I had the conviction that further concrete evidence towards confirmation of my claim could be found in that setting. Since the disease, if inherited, would not disappear simply because of a move to a far country, there would be obvious value in making a study of those leprosy immigrants and their relatives and descendants, especially as so many of the leper emigrants had numerous offspring and other relatives."

He met many Norwegians on his travels in the U.S.A. and noted how well they had prospered in the new land as a result of hard work, but he has not given us any information on the one thing we want to know—did he find any leprosy? Here we have to turn to other authors who have studied Dr Hansen's life, and they tell us two things; firstly, that Dr Hansen found no leprosy in those Norwegian families, and, secondly, that he gave it as his opinion that this was largely due to good housing and living conditions.

In the pages of this book we learn a great deal about the author's character and philosophy of life—his disillusionment with the Christian faith in general and with the Lutheran Church in particular, his pacifism and opposition to any form of racialism (natural corollaries to his abiding faith in the brotherhood of man), his love of truth and detestation of cant and hypocrisy, and his faith in the future development of scientific thought and research:

"This is a great comfort to me in my old age—that future generations will solve many—yes, all of the riddles that the present one has struggled with in vain."

*W. H. JOPLING*

**Adams and Maegraith's Clinical Tropical Diseases**, 6th edit. Edited by Brian Maegraith. Published by Blackwell. Price £10.50.

The Sixth Edition of this standard textbook of tropical medicine is distinguished in many aspects, but none more so than the chapter on leprosy written by Dr Stanley Browne. It is a pleasure to encounter in a textbook of general medicine a section on leprosy which is commensurate with the importance of leprosy in the world, and is entirely authoritative and up to date. Strongly recommended.

*T. F. DAVEY*