Handbook of Pathology

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The *Handbook of Pathology* (Fig 1) was written by Professor Wang Chung-yik (1888-1930) during his tenure as the first and Foundation Chair of Pathology at The University of Hong Kong, a position he held from 1919 to his death. Wang was the first ethnic Chinese to hold a full-time chair at the University.[1] Published in 1925 as a textbook for students with 282 illustrations, the *Handbook* is unique not only as the first Pathology textbook to be written by a Hong Kong author, but also for its unusual approach.

As Wang explained in his preface, the book was "written with the object of presenting in a short, concise form the more important and salient points in Pathology, such as appear to the author to meet the main requirements of the students of medicine for whom this is primarily intended."[2] Thus, the *Handbook* covers only the more common disease conditions of that time, with special prominence given to morbid anatomy, which the author considered essential to the understanding and interpretation of functional disorders in disease. Each entity covered is well illustrated, as far as possible, with a photograph of a well-preserved gross specimen and/or a photomicrograph or diagrammatic representation of the condition. These illustrations were undoubtedly derived from a teaching collection of museum specimens and microscopic sections which Wang had painstakingly built up with the establishment of the pathology department at The University of Hong Kong.

Interestingly, throughout the chapters, microscopic appearance is presented before naked-eye appearance. The diagrammatic representations presented are actually low-power photomicrographs, mostly taken at ×46 magnification, with relevant important structures coloured or highlighted to facilitate easier appreciation of the condition (Fig 2).

Unlike conventional textbooks, which are usually arranged according to organ systems, or by the commonly described pathological processes, the *Handbook* is divided into chapters based on aetiological lines or characteristic tissue changes, with lesions of a similar or related nature grouped together for discussion (Fig 3). Wang believed that this aetiological approach emphasising the causes of tissue or cell change in accordance with his own concepts would be most helpful for his students.

The early chapters of the *Handbook* deal with the following introductory topics in turn: morphology of cells; reproduction of cells; degeneration and allied changes in cells; oedema; hyperaemia; thrombosis and embolism; infarction; atrophy; hypertrophy and hyperplasia; and metaplasia. In each of these chapters, the changes affecting different organs are

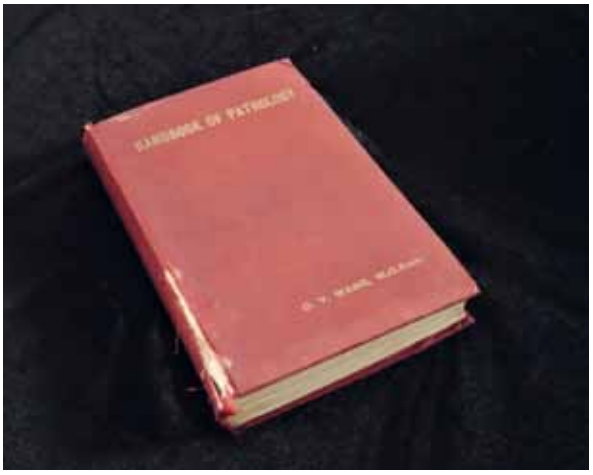

FIG 1. A copy of the *Handbook of Pathology* (1925) written by Wang Chung-yik and kindly donated to the museum by his son, Dr Ian Wang (courtesy of the Hong Kong Museum of Medical Sciences Society)

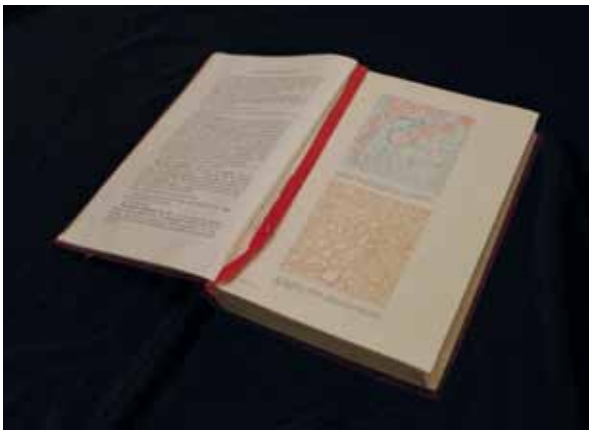

FIG 2. Photograph of a page from the *Handbook of Pathology* (1925). Illustrations on the right-hand page show low-power photomicrographs of liver and spleen sections in waxy degeneration (courtesy of the Hong Kong Museum of Medical Sciences Society)

FIG 3. Wang Chung-yik in his MD graduation robes, 1916 (courtesy of the Hong Kong Museum of Medical Sciences Society)

detailed in turn. The chapters that follow deal with functional abnormalities: dilatation; haemorrhage; pigmentation; fever; shock; and inflammation. These chapters also encompass multiple organs for each abnormality. In particular, the chapter on inflammation is of significant length, totalling over 100 pages, dealing with inflammation in one organ system at a time. The remaining chapters cover: acute infective diseases; diseases due to known bacteria or parasites—a long chapter with significant coverage of syphilis and tuberculosis; disease due to filter passers; disorders of internal secretion; diseases due to metabolic disturbances; diseases affecting the blood and blood-forming organs, and related conditions; and finally tumours—another chapter that takes up more than one fifth of the book.

Wang's appointment in 1919 with his subsequent return to Hong Kong in 1920, marks the start of the department of pathology which he built from scratch, in a new building on the main university campus. Wang was a graduate of the Hong Kong College of Medicine, which was the only tertiary-level educational institute in Hong Kong at that time.[3] The Licentiate awarded by the College to graduates at that time was not recognised by the General Medical Council of the United Kingdom; therefore, Wang enrolled at the University of Edinburgh, obtaining his MB ChB degree in 1910, after only 2 years of study.[1] Motivated by a desire to learn more about scientific and technological advances in the major centres of medical education in the West, Wang then undertook a period of intensive training, obtaining the Edinburgh Diploma of Tropical Health and Hygiene in 1911, the Diploma of Public Health at Manchester in 1912, and the BSc in Bacteriology and Comparative Pathology in 1913, also in Manchester.[1] He then worked in the laboratory of the Royal College of Physicians of Edinburgh as an independent researcher from 1913 to 1919.[4] His particular interest was in the field of tuberculosis, which was the basis of his MD thesis "A study in some phases of tuberculosis, with special reference to the incidence of bovine infection and the question of latency and prevalence of the disease," for which he was awarded a gold medal from the University of Edinburgh in 1916[1] (Fig 3). Indeed, tuberculosis research was his life-long interest.

When the superintendent of the Royal College of Physicians of Edinburgh laboratory was called up for military service during the First World War, Wang was appointed Interim Assistant Superintendent, assuming the responsibility for the general running of the laboratory and the reporting of many type of specimens submitted for clinical diagnosis. This included handling specimens from the influenza pandemic of 1918 and diagnostic work in venereal diseases.

As well as head of the Pathology Department at the University of Hong Kong, Wang was an Honorary Consultant in Pathology to the Hong Kong Government and also acting Government Bacteriologist from 1921 to 1922. During this period, Wang was also in charge of the Government Bacteriological Institute (the building which now houses the Museum) and the Government Mortuary which served the whole of Hong Kong Island. Wang also had the responsibility to report on specimens from university clinics and wards in the Government Civil Hospital, conduct post-mortem examinations, supervise the production of cowpox, typhoid, rabies, and autogenous vaccines, and survey various infectious diseases.[5]

Despite these heavy clinical duties, Wang dedicated himself to his teaching responsibilities in equally serious fashion. Tragically, Wang contracted tuberculosis at the height of his career.[6] When he could no longer speak on account of tuberculosis affecting his larynx, he wrote down his lectures and asked an assistant to read it out of him.[6] With little time left for research, his interest in tuberculosis and laboratory medicine nevertheless continued, with publication of a series of papers in the Lancet on different aspects of laboratory testing.[7-9] He passed away at the young age of 42.[6] He was remembered as a kind and conscientious teacher interested in the welfare of his students (personal communication,

Dr Chiu-kwong Yu; 1998). As summed up in his obituary, "There is no doubt that had his life been spared he would have made his department in the Hong Kong University a distinguished centre of teaching and research".[10]

A copy of the *Handbook of Pathology* that was kindly donated by the author's son, Dr Ian Wang, is on display in the Old Laboratory at the Hong Kong Museum of Medical Sciences, in the permanent exhibit entitled 'Three Notable Pathologists'. The Foundation stone of the School of Pathology and the School of Tropical Medicine, dated 1918, served as another reminder of his legacy. The stone was a prominent landmark at the entrance of the University Pathology Building in Queen Mary Hospital until the building was decommissioned in 2018.

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