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A Final Curtain

At a simple ceremony held at Horton Hospital, Epsom, on 2 June Professor P. C. C. Garnham unveiled a plaque to "commemorate the contribution made in this building between 1925 and 1965 towards the relief of suffering . . ." The building referred to was the one previously occupied by the Malaria Reference Laboratory and W.H.O. Regional Malaria Reference Centre for Europe, known universally as the Horton Malaria Laboratory, or even more simply as the Horton Laboratory.

The history of the laboratory may read like science fiction: it is none the less a fascinating if little-known chapter of science fact. The prologue was set in Vienna about 1918, with the discovery by Professor Wagner-Jauregg of the treatment of syphilitic general paralysis of the insane (G.P.I.) with malaria-induced fever. Before this G.P.I. had been a killer; a measure of the devastation it created was the fact that in 1921 about 10% of all patients in mental hospitals in Britain were victims of the disease, and most of them were destined to die a wretched, lingering death. News of the epoch-making therapeutic advance reached the Ministry of Health, which lost little time in introducing it. Serious hazards were encountered at first, due largely to a lack of awareness of the lethal effects of certain species of human malaria parasites such as *Plasmodium falciparum*. In one hospital alone, for example, five patients died within three weeks of being given venous blood from a malaria-infected seaman recently arrived from West Africa.

It was, indeed, in an attempt to render the treatment as safe as possible that the Horton Laboratory came to be established. Colonel S. P. James, the first director, laid down the criteria that should be met before the strain of parasite could be considered safe for use in man. Eventually such a strain was found in a lascar who had contracted malaria in Madagascar. On an historic day, 25 May 1925, mosquitoes infected with this strain were taken to Horton and fed on two female patients, so establishing the so-called Madagascar strain of *P. vivax*—and with it the reputation of the laboratory. At first the prime function of the laboratory was to provide malaria parasites for any hospital in Britain to use in the treatment of G.P.I. So well did it meet its obligations that until penicillin made the treatment obsolete the laboratory provided material for many thousands of victims of G.P.I., and some 16 000 were treated in Horton Hospital alone.

Malaria therapy, it was soon discovered, provided a unique opportunity to study malaria itself in the greatest detail, an opportunity that the high-calibre personnel of the laboratory were not slow to exploit. Before long a steady stream of publications began to appear in scientific journals all over the world bearing the Horton Laboratory imprint. They record an impressive list of major discoveries, but none so important as that of the exoerythrocytic parasite in the liver in man in 1948. As its fame spread so workers from many European countries and the U.S.A. came to study in the laboratory and then to return home armed with its philosophy and techniques.

Help of inestimable value to the Allied cause was contributed by the laboratory in the last World War. The outbreak of hostilities brought to an end the cooperation between Germany and Britain in testing synthetic antimalarial drugs. The early victories of the Japanese in the Far East resulted in supplies of quinine being cut off, thus exposing our troops in North Africa and Burma to the grave danger of having to cope without adequate antimalarial drugs. Extreme urgency was given to the further development of mepacrine, already known to be more effective than quinine as a curative agent. It fell to the Horton Laboratory to test the drug in conditions of maximum secrecy, and the ultimate success of the programme is in itself a story of epic proportions.

The laboratory was singularly fortunate in its long line of distinguished directors starting with Colonel James and ending with Professor Garnham. However, few would doubt that the real star of the show was Mr. C. P. Shute, who joined the laboratory at its inception in 1925 and then rose from the ranks to serve as its assistant director from 1944 until its closure in 1973. This remarkable man, by trade a baker, was by an act of providence transmuted into a world-class scientist. He had the added virtue of being articulate—as his innumerable papers bear witness. It is a pleasure to record that he and Miss Marjorie Maryon, his devoted technical assistant for the past 37 years, were present to witness the final curtain rung down.

There is to be a fitting epilogue. The Wellcome Museum has generously undertaken the safekeeping of the laboratory's memorabilia. So tokens of one of the heroic chapters of the history of medicine of our time will be preserved.

Bladder Stone

"Cutting for the stone"; there can be few other phrases which range over such vistas of medical history, human suffering, and surgical endeavour. Of the triad of elective operations first performed by man—circumcision, trephination of the skull, and cutting for the stone—the last was the only one free from religious, ritual, or superstitious connotations and may therefore safely be pronounced the most ancient operation undertaken for a specific surgical disorder.[1]

The oldest bladder stone so far discovered was obtained from the grave of a boy of about 16 buried at El Amrah in Upper Egypt and dated at about 4800 B.C. Descriptions of means to relieve a patient of his stone have come down to us in Ancient Egyptian and Indian writings. The Hippocratic physicians of the fifth and fourth centuries B.C. were familiar with this condition, and the Hippocratic oath itself mentions[2] the first specialist urologists: the treatment of patients with stone was to be left in their hands. "I will not covet persons