The Wellcome Laboratories of tropical medicine : 1913-1963.

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1913-1963 The Wellcome Laboratories of Tropical Medicine

1913-1963 The Wellcome Laboratories of Tropical Medicine

(Formerly the Wellcome Bureau of Scientific Research)

Founded by Sir Henry Wellcome, LL.D., D.Sc., F.R.S.

Commemorating their Fiftieth Anniversary July 1963

The Wellcome Foundation Ltd.

Euston Road, London, England

Acknowledgements

The panels showing the history and work of the Wellcome Laboratories of Tropical Medicine were prepared by the staffs of the Laboratories and of the Wellcome Museum of Medical Science under the guidance of the Director of the Wellcome Museum of Medical Science, Colonel C. A. Bozman.

Grateful acknowledgement is made for the work of Messrs. S. Land, W. Norman, J. W. Michieli and P. B. Fletcher; also for the help of Dr. F. N. L. Poynter, Director of the Wellcome Historical Medical Library, Dr. E. Ashworth Underwood, Director of the Wellcome Historical Medical Museum and Dr. M. E. Rowbottom of the Wellcome Historical Medical Museum.

The brief history of the Wellcome Laboratories of Tropical Medicine was compiled by Mrs. Irene Whalen, the Librarian.

L. G. Goodwin

The Wellcome Laboratories of Tropical Medicine have always been closely associated with the Royal Society of Tropical Medicine and Hygiene. Many members of the staff of the Laboratories have served as officers of the Society.

It is fitting that the Golden Jubilee of the Laboratories should be celebrated by a special meeting of the Royal Society of Tropical Medicine and Hygiene to be held at the Wellcome Building on Thursday, 25th July 1963, under its President, Charles Wilcocks, C.M.G., M.D., F.R.C.P., D.T.M. & H.

A special exhibition showing the work of the Laboratories has been prepared and will be on view in the Wellcome Historical Medical Library, where important historical books on tropical medicine may also be seen. The Wellcome Museum of Medical Science and the Wellcome Historical Medical Museum will be open and demonstrations have been prepared in the Laboratories.

The exhibition showing the work of the Laboratories will also be shown at the Seventh International Congresses on Tropical Medicine and Malaria at Rio de Janeiro in September 1963.

In 1898, Lord Kitchener's campaign in the Sudan put an end to the despotic rule of the Khalifa. One of his first acts in the reconstruction of the country was to establish the Gordon Memorial College in Khartoum for the education of Sudanese citizens.

Henry Wellcome, a close friend of the explorer W. M. Stanley, had a keen interest in African affairs and in 1901 he travelled in Egypt and the Sudan to see for himself the poor conditions of hygiene and medical care which prevailed. He immediately offered to equip and finance a laboratory in the new College.

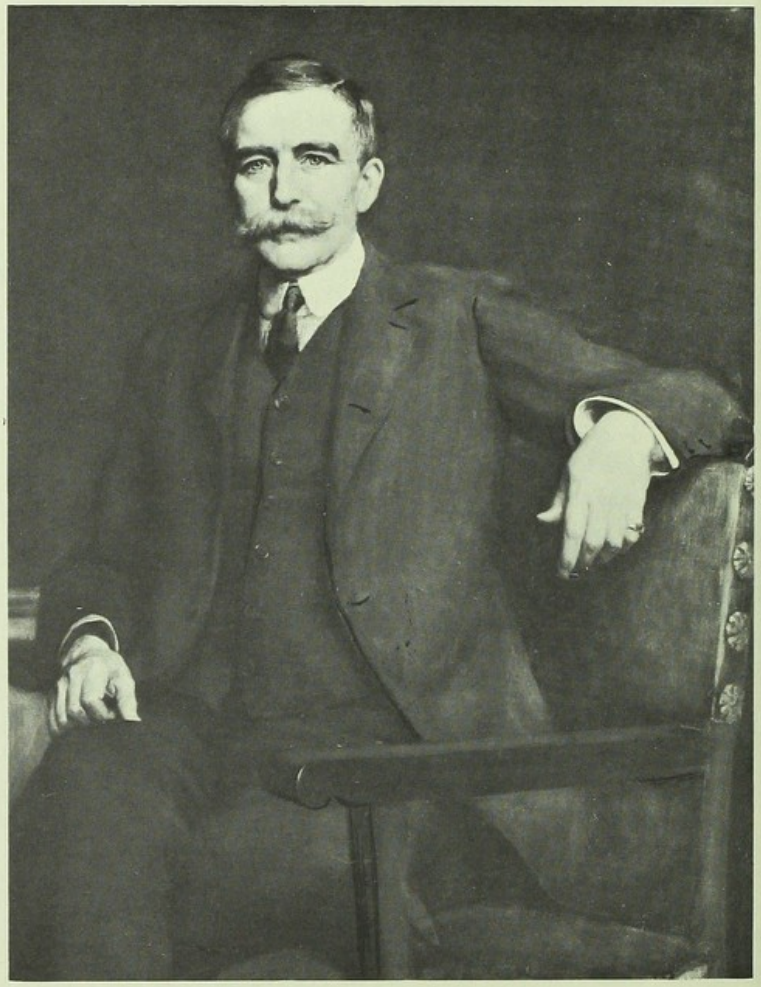
In 1902 the "Wellcome Research Laboratories" were established in a five-room suite in the Gordon Memorial College and the Director, Andrew Balfour, began an ambitious programme covering technical education, public health and agricultural and industrial development in the Sudan.

In 1904, W. Beam, a chemist "well versed in agricultural, economic and toxicological work" was appointed and was joined later by a travelling pathologist and naturalist who could make investigations on the spot. The Laboratories supplied the equipment for the Sudan Commission on Sleeping Sickness, continuing their policy of close co-operation with governmental research.

The premises were enlarged by two more rooms, a small library was collected and specimens began to accumulate to form the nucleus of a museum for reference and teaching. A second chemist, J. A. Goodson, and an "economic entomologist", H. King, were added to the team.

By 1906 a proposal to set up a floating laboratory was being vigorously canvassed and in 1907 C. M. Wenyon took the laboratory on its maiden voyage up the Nile. It is believed that this was the first of its kind in the world. There was no need to hunt for specimens; insects and patients swarmed aboard and vectors and victims were present in embarrassing numbers.

Henry Wellcome in 1906



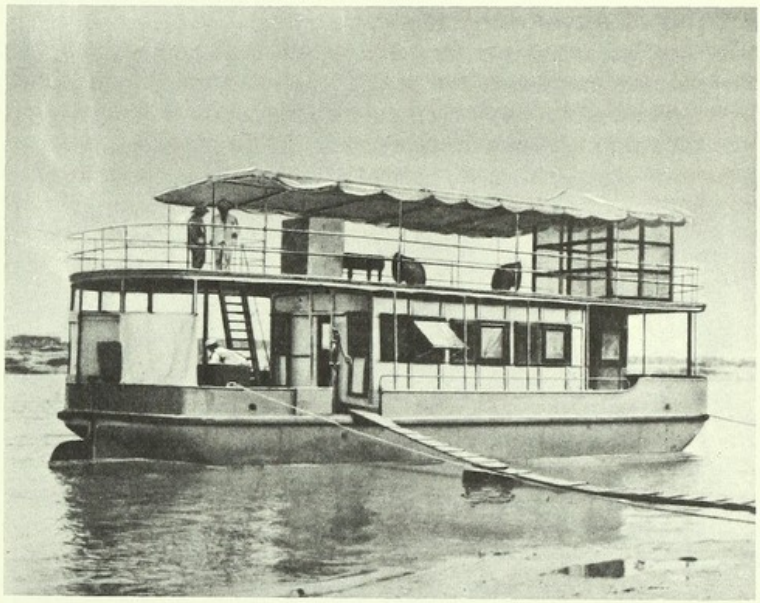
The Laboratories were renamed the "Wellcome Tropical Research Laboratories" in 1911 and the staff increased to eleven. Co-operation with the London School of Tropical Medicine and the Lister Institute steadily increased. In 1912 Wellcome decided to hand over to the Sudanese Government the whole undertaking, including the museum which had been collected as a result of the work of the laboratories. This gift is still acknowledged in the Annual Reports of the Sudan Medical Service.

In 1913 Balfour returned to London to become the Director of the new Wellcome Bureau of Scientific Research in Henrietta Street. The Museum of Medical Science was founded as a separate establishment the following year and was closely affiliated with the Bureau. Research continued in many branches of medicine and zoology with emphasis on tropical disease. Information was freely disseminated to research workers and medical officers all over the world and facilities were made available for visiting scientists.

In the year of its foundation, the Bureau lent Louis Sambon to the Committee investigating pellagra, which Wellcome had always supported most generously, in order that work in Italy might be completed. In 1914 Balfour departed on an arduous expedition to the West Indies and the Panama Canal Zone, where he conferred with General Gorgas. The results of these travels were published in Balfour's "War Against Tropical Disease".

When the first World War broke out the Bureau was placed unreservedly at the disposal of the War Office, its members being appointed to official positions with medical corps in all fields of action, especially in tropical and subtropical areas. Balfour himself went to France in 1915 to advise on ambulance equipment and sanitary arrangements: thence to the Near East, Gallipoli, Macedonia and Egypt. In 1916 he went to India and in 1917 to East Africa. In 1918 he became President of the Egyptian Public Health Commission. His publications testify to his incredible activity.

The Floating Laboratory.



Meanwhile, in 1915, at the request of the War Office, Wenyon instructed medical officers on the diagnosis of protozoal infections and lectured to troops on the principles of protective immunization. In 1916 he joined Balfour on the Medical Advisory Committee charged with the investigation of amoebic dysentery and other intestinal protozoal infections in Egypt. In 1916 Wenyon visited India and Mesopotamia and the following year became consultant on malaria to the expeditionary force in Salonika. It was he who organized a special War Ambulance Construction Commission, which led to the construction of a Mobile Medical Field Laboratory. This was a striking innovation at the time and echoes the floating laboratory launched ten years earlier.

With the signing of the Armistice the Bureau resumed its normal work in London while Balfour, at the instigation of the Government, toured Mauritius and the West Indies. In 1920 the Wellcome Entomological Field Laboratories were established at Wisley for research on the life-history and habits of noxious pests; these laboratories were later transferred to more commodious quarters at Esher. The entomologist, M. E. MacGregor, was lent to the Colonial Office to evolve a scheme of mosquito control in Mauritius.

In 1923, Andrew Balfour became Director of the London School of Tropical Medicine and Wenyon succeeded him as Director of the Bureau and Director-in-Chief of all Wellcome's Laboratories. The character of the Bureau changed with the times and greater emphasis was laid upon practical research in pathology, bacteriology, protozoology, helminthology, medical zoology and entomology.

Andrew Balfour

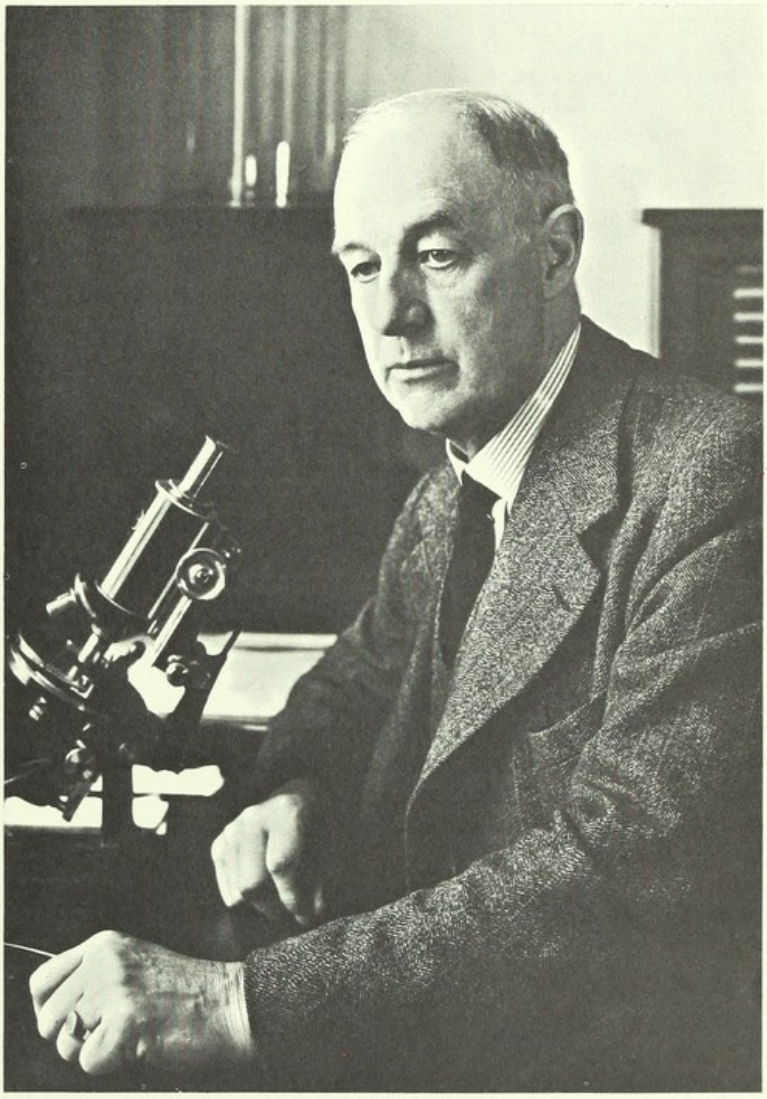
The Laboratories moved to larger premises in Endsleigh Gardens in 1926: the library was widely developed and a photographic studio, twelve well-equipped laboratories, animal rooms, and an art studio were provided. Wenyon's classical monograph on protozoology was published in the same year, and in 1927 he was elected a Fellow of the Royal Society.

Field work continued and in 1927 C. A. Hoare, who joined the establishment in 1923, was seconded to the Uganda Medical Service to work at the Trypanosomiasis Research Laboratories in Entebbe. Here he studied the crocodile trypanosome, *Trypanosoma grayi,* and established its life-cycle. He returned in 1929 with collections of parasitic protozoa which were invaluable for the intensive work in progress at the Bureau. Hoare's distinguished work in protozoology has continued to the present time: he was elected a Fellow of the Royal Society in 1950.

Work continued on the malaria mosquito under MacGregor, and B. Jobling, distinguished for his original observations and drawings, was installed as entomologist at Esher. Helminthology was studied by W. N. F. Woodland, while E. Hindle, H. C. Brown and Findlay were working on yellow fever. J. C. Broom, R. D. Mackenzie and, later, F. D. MacCullum and D. J. Bauer developed the immunological work, with the result that in the second World War, the Bureau was able to protect hundreds of thousands of people travelling to the tropics. The vaccine was prepared in the laboratories and inoculations through the Yellow Fever Inoculation Service were organized by Broom. The service was provided free of charge as a contribution to the war effort.

In 1930, Findlay published the first edition of his "Recent Advances in Chemotherapy", an important landmark in the history of the subject.

C. M. Wenyon



By 1932, the Laboratories in Endsleigh Gardens had been pulled down and replaced by the present building with a new frontage in Euston Road. The Wellcome Research Institution was designed to house all Wellcome's historical and medical collections together with the Bureau of Scientific Research and the Chemical Research Laboratories, directed by T. A. Henry, which had occupied premises in King Street since their inauguration in 1896. The chemists worked mainly on natural products: H. Paget investigated the constituents of antileprotic oils and W. Solomon worked on the quinine alkaloids.

During the second World War, Findlay and Mackenzie were loaned to the Royal Army Medical Corps and MacCallum joined a Cambridge team in an intensive study of infective hepatitis. L. G. Goodwin and P. B. Marshall began work on chemotherapy and biochemistry and J. M. Watson joined the Bureau as helminthologist. The chemical laboratories abandoned academic work for the chemotherapy of tropical disease. The work of W. H. Gray and Solomon on organic antimony compounds led to the introduction of 'Neostam' and 'Pentostam' for the treatment of leishmaniasis and 'Triostam' for schistosomiasis. Gray's work on sulphones also provided 'Sulphetrone' for use in leprosy. Accommodation and facilities were provided for Dr. A. Felix of the Medical Research Council for his work on the *Salmonella* group of organisms.

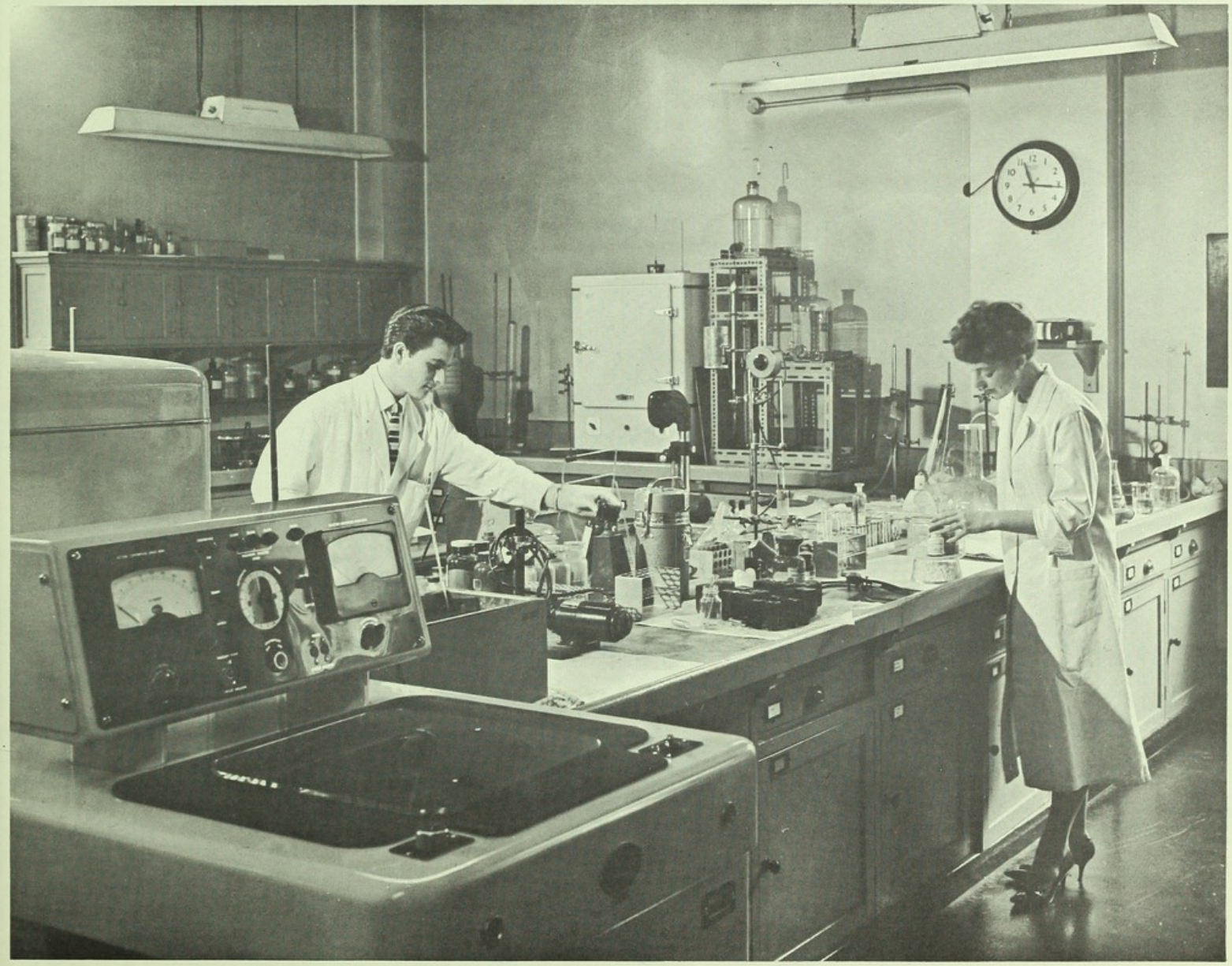
With the end of the war, came the deeply regretted retirement of C. M. Wenyon and the appointment of C. H. Kellaway as Director-in-Chief. The emphasis on chemotherapy increased; Goodwin studied protozoal infections and with the appointment of O. D. Standen as helminthologist, the work was extended widely in a search for new anthelmintics. Field work was resumed, and Watson studied the action of lucanthone ('Nilodin') on schistosomiasis in Egypt.

Towards the end of the war the Bureau was renamed the "Wellcome Laboratories of Tropical Medicine" and Brigadier J. S. K. Boyd became Director in 1946; Boyd continued his studies on bacteriophage and was elected a Fellow of the Royal Society in 1951. T. M. Sharp became chief chemist to the Laboratories on T. A. Henry's retirement in 1943.

Co-operation between the units of the Wellcome Foundation at Beckenham and Frant was developed and studies were made on the chemotherapy of trypanosomiasis and malaria. Goodwin, J. P. Lock and I. M. Rollo, in close collaboration with the Wellcome Research Laboratories in Tuckahoe, New York, carried out work which led to the introduction of pyrimethamine ('Daraprim') for the prophylaxis of malaria and Goodwin spent six months in Nigeria in 1951 carrying out field work with this drug and with a new series of trypanocides. R. A. Neal made important studies in amoebiasis and also carried out field trials in bovine trypanosomiasis in Khartoum.

Standen's work on the chemotherapy of intestinal parasitic nematodes led to the use of piperazine ('Antepar') for threadworm and roundworm infections. The assessment of this drug against roundworms involved two expeditions to West Africa, during which Goodwin and Standen worked with the Medical Research Council's unit in the Gambia. Expeditions have also been made to East Africa for the trial of schistosomicides and to Ceylon for work on the chemotherapy of hookworm infections. The Ceylon trials, made in collaboration with members of the staff of the Medical Research Institute and the government medical services in Colombo, resulted in the introduction of bephenium ('Alcopar'): further field studies were carried out with this substance by J. E. D. Keeling in West Pakistan.

A Laboratory in the present
Wellcome Laboratories of Tropical Medicine



The Wellcome Building

Brigadier Boyd was appointed a Wellcome Trustee in 1955 and was knighted shortly afterwards. His place as Head of the Laboratories of Tropical Medicine was taken by R. S. F. Hennessey. In 1958 Hennessey became Head of the Therapeutic Research Division of the Wellcome Foundation and was succeeded by L. G. Goodwin.

The increasing importance of biochemistry in the study of the mode of action of drugs and of the metabolic activity of parasites has been reflected in the extension of biochemical effort under R. H. Nimmo-Smith and in the provision of facilities for C. G. Raison to study radiochemical techniques.

Antiviral chemotherapy has been under investigation for many years by Bauer. Extensive laboratory and clinical studies of the effect of a series of new compounds with activity against the pox viruses culminated in a recent expedition to India. Promising results have been obtained in the prevention of disease in smallpox contacts.

Broom, who was awarded an O.B.E. for his services during the War in connexion with yellow-fever immunization, later turned his attention to the study of leptospirosis as a public health problem: his laboratory is recognized by the World Health Organization as a Leprospirosis Reference Laboratory. His death in 1960 was a sad blow; L. H. Turner has continued this work.

The present staff of the Wellcome Laboratories of Tropical Medicine numbers over 70, of whom 18 are graduate research workers. They function as a team, close co-operation being maintained between chemist, biochemist and biologist. Against a background of routine screening tests for promising new drugs for the treatment of disease in man and domestic animals, more fundamental studies are carried out on the interactions between drugs, parasites and hosts. Close co-operation is maintained with other units of the Foundation in Britain, America and East Africa, and with University and Government research establishments at home and overseas. Several members of the staff have served upon Committees of the World Health Organization.

The Laboratories and the Wellcome Museum of Medical Science (which celebrates its Jubilee next year) sprang from the same source and have always been closely allied in their efforts to give assistance and information, and to discover new knowledge of value in the fight against tropical diseases.

This brief history of the Laboratories shows the considerable achievements which have resulted from Henry Wellcome's foresight in establishing a unit 50 years ago to study the means of alleviating human misery and of improving health standards in the tropics.

Since the early days in Khartoum, the Laboratories have had several homes and the future offers yet another. Modern, well-equipped laboratories are at present being planned at Beckenham, where the main Wellcome Research Laboratories are situated. The move is expected to take place early in 1965.

The spirit of enthusiasm and public service that inspired the original team in the Sudan is not forgotten.

Staff of the Wellcome Laboratories of Tropical Medicine in 1963

Head	L. G. Goodwin, M.B., B.S., B.Sc., B.Pharm.
Protozoology	R. A. Neal, D.Sc., Ph.D.
	Elizabeth Beveridge, B.Sc.
	P. L. Bradley, B.Sc.
	Pauline Johnson, B.Sc.
Helminthology	O. D. Standen, D.Sc., M.Sc.
	G. Dickerson, B.Sc.
	J. E. D. Keeling, B.Sc.
Virology	D. J. Bauer, M.A., Ph.D., M.B., B.Chir.
	F. W. Sheffield, M.B., Ch.B.
Biochemistry	R. H. Nimmo-Smith, M.A., D.Phil., M.B., Ch.B.
	T. Bauchop, Ph.D.
	C. R. Jones, B.Sc.
	M. Kaighen, Ph.D.,
Leptospirosis	L. H. Turner, M.B.E., M.D., M.R.C.S., L.R.C.P., D.T.M. & H.
Chemistry	J. H. Gorvin, Ph.D., F.R.I.C.
	W. Solomon, M.Sc., A.R.I.C.
Radioactive Chemistry	C. G. Raison, Ph.D.
Librarian	Irene Whalen, B.A.

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