R. T. Leiper

LXXX ANNIVERSARY

1961

JOURNAL OF HELMINTHOLOGY SUPPLEMENT

IN HONOUR OF

R. T. Leiper

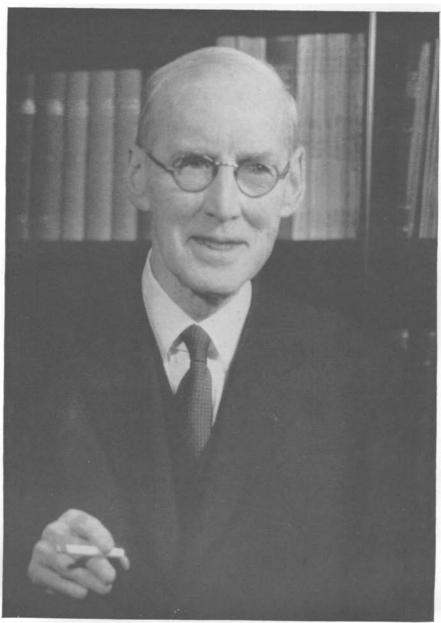
ON THE OCCASION OF HIS

80th Birthday 1961

Acknowledgments and sincere thanks are tendered to all those who have contributed articles to this "festschrift" and to others who have helped in its construction. Special thanks are due to Mrs. Joy Gordon for her charmingly topical illustrations (pages v to xi) and to the printers for their close co-operation and excellent workmanship.

Editor.

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Manchester, England



Photograph by Juliet Haddon, St. Albans

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Greetings

to R. T. Leiper

ON HIS EIGHTIETH BIRTHDAY

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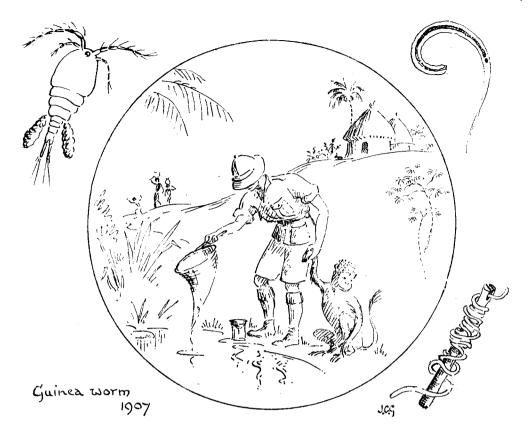
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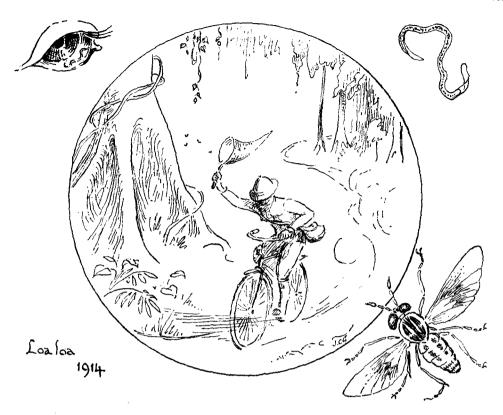
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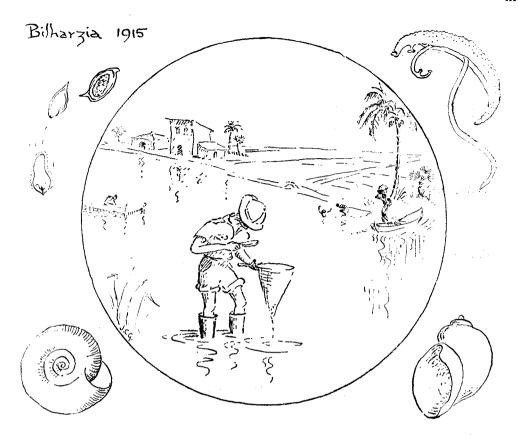
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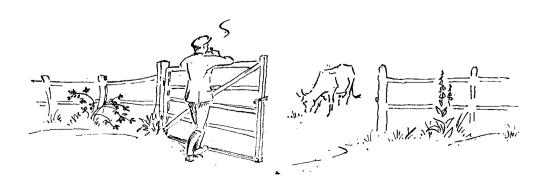
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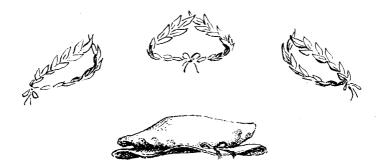
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Citation at the ceremony of conferring the degree of LL.D. on R. T. Leiper by Lord Boyd-Orr Chancellor, Glasgow University, 21st June, 1955

One of the greatest boons in life is to have the power to see ourselves as other see us. It is a sobering thought that as a result of spending some fifty years in the study of tropical medicine, Professor Leiper may know precisely what helminths mean by a worm's eye view of humanity. The philosophic consequences of such enlightenment may well shatter a man's belief in his own lofty status in the animal kingdom; and perhaps the new sense of perspective thus created accounts for Professor Leiper's confession in "Who's who"—that his sole recreation is form-filling.

Our admiration for Professor Leiper's assiduity must increase still further when we remember that, in polite society, parasites are not mentioned except by politicians in search of invective. This may help to account for the restlessness of British parasitologists, though it must be admitted that the scientist is influenced by the searching query:

What do they know of helminths Who only England know?

Be that as it may, it is certainly true that for half a century Professor Leiper's expert knowledge has been in demand all over the world. On research missions and surveys with important bearings on health and agriculture, he has boxed the compass in his travels between the Gold Coast and Nigeria, China and South America, Egypt and Uganda. His outstanding ability as a field worker, an investigator and an author were recognised when he was still a young man, and in 1941 he was created a Companion of the Order of St. Michael and St. George.

Professor Leiper was educated at Warwick School, but since he is of Ayrshire stock it is scarcely surprising that Glasgow University

Helminthological Research Expeditions undertaken by Professor Leiper from 1905 to 1938 "What do they know of helminths

Who only England know?" Stanley Alstead.

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shares with Birmingham the honour of claiming him as an alumnus. His degrees in science and in medicine were conferred by this University; he is a Fellow of the Royal Society; and his negotiable assets include three of the most coveted Gold Medals awarded for distinguished work in medical science. Professor Leiper's tenure of the Chair of Helminthology in the University of London contributed substantially to the eminent position enjoyed by the London School of Tropical Medicine; and he now continues to explore new developments in his strange and complex subject as Director of the Commonwealth Bureau of Helminthology at St. Albans.

The University of Glasgow has noted with pride Robert Leiper's achievements in a long life devoted to extending the frontiers of science and medicine. I now ask you, Sir, to confer on him the highest honour which his Alma Mater has the power to bestow, and she will rejoice to see her son in the kaleidoscopic splendour of his triple doctorate.

Stanley Alstead

LEIPERIGONUS BUREAUI

Aurevoir, 1958 nec Adieu*

Said Ann Kylostoma "Oh, Me Lord O'Gyne Shall I cosy Ella while you write a speech For although you're incognita You would make a smashing speaker And we must pay homage to Professor R. T. Leiper." Said me Lord O'Gyne "You may cosy or neglect 'er But I'll stick to Dora because she's such a peach. Though R.T.L.'s retiring he doesn't want a fuss So instead of one speech only We will have a line from each." Although he's still resentful Bill Hart's ire's quickly spent Though he's now called Schistosoma It's the same worm which is meant. So he made his contribution And this is how it went: "Had it not been for R.T.L. Our secret we'd have kept Of how we bored into the snail And out again we crept To penetrate the skin of man And get into his vein Where we lay lots and lots of eggs Which pass outside again." Just then a wail of anguish came-"Alas—Oh gone—Oh poor us! Oh what has Alli sat in now?" Cried dear old Sister Caulus. Said Stizo "(Come now) steady on It's R.T.L. we're fêting, We must not let the lazier ones Escape their tribute making. Do you think Orrie Batid might Add something to our rhyming?" He said "I've got mon niece 'ere too How's that for perfect timing?

^{*} An Ode to Professor R. T. Leiper from some "miscellaneous helminths" on the occasion of his retirement from the Commonwealth Bureau of Helminthology.

I seen yer in the early days Researching the World over, I only hope when you retire You'll find yourself in clover!" A cry then went up from his staff "He's strong while us is weak He turns his abstracts out so fast We've hardly time to speak." So please accept this typewriter, An Olivetti Lettera, E'en though your writing's VERY clear Typewriting is much bettera! We hope that you will write a book, Memoirs would make good reading Though they might land you in the Courts To do some special pleading! So, Robert Thomson Leiper, Oh Creator of H.A. We wish you many happy years' retiral from the fray!

With due apologies and acknowledgments to:

Ancylostoma
Meloidogyne incognita
Icosiella neglecta
Stictodora
Bilharzia
Allassogonoporus
Allisatin
Cystocaulus ocreatus
Stizostedion
Thelazia
Oribatid mites
Moniezia
Eisenia
Strongylus
H.A.=Helminthological Abstracts

SHEILA WILLMOTT

Robert Thomson Leiper

Robert Thomson Leiper has been more closely associated with the School of Tropical Medicine in London than any one else. It is 55 years since he joined the staff in its early days, in 1905, some six years after its foundation, so it is difficult to realize now from his appearance, or alertness, that he has completed more than his half-century. During all this long time he has constituted himself guide, philosopher and friend of this venture and has, almost more than anyone else, been the pioneer of its destinies. Now, in the 38th year of the Journal of Helminthology, which is his child, he has more claim to be adjudged the "Father of Modern Helminthology" than anyone, so it is fair to claim that he is by far the most distinguished in this speciality in the world to-day. He has been associated with the great Masters in the past, with Patrick Manson, Arthur Looss, F. Fülleborn of Hamburg and Wardell Stiles of America, so therefore has a good background. Leiper was reared in helminthology and has had his being in this speciality which in many ways he has made his own and no one has contributed more to the knowledge of its tropical aspects. Long before his advent to the School, as a shy youth, Leiper had been devoted to helminthology at the Millport Marine Station while a medical student at Glasgow, had been singled-out by a friend of Patrick Manson's, and had drawn attention to his qualities. Just think of his great discoveries. It is a most impressive list:—The unravelling of the life-history of Loa loa in 1913; the classical descriptions of many new helminths—Ternidens deminutus (1913), Physaloptera mordens, Lagochilascaris minor and others; then the almost fabulous story of the developmental cycle of Schistosoma haematobium and S. mansoni in 1915 and the differentiation of the adult forms, all of which contributed so much to the progress of the Great War. It is therefore true to say that it was Leiper who put Tropical Helminthology on the map. In addition to these victories he has made great contributions to Veterinary and Agricultural Helminthology by founding the Commonwealth Bureau of Helminthology as well as the Institute of Agricultural Parasitology at St. Albans. He has also rendered inestimable services in issuing his Catalogue of Periodicals of Medicine and Allied Sciences in British Libraries and furthermore his life-long task has been the recording of the literature of helminthology.

Now as to the man. No one can deny that Leiper is a character hammered out from his Scottish ancestry. He is kind, charming and helpful to the worthy, but withering to the insincere or make-believe. He has a distinctive smile which he varies to suit the occasion and he is a critic of no mean order, but his criticisms are tempered by his high sense of humour. Nothing pleases him so much as a friendly dig at amateur helminthologists. These little outbursts are very welcome and cannot be resented. But he is more than a critic, he is a diplomat and strategist of no mean order. To watch him at a committee is an education in itself, and to witness him concentrate his forces so as to annihilate all opposition is a lesson. But whatever feelings one may harbour about his dagger-like thrusts there is one man he has never criticized by word or deed and that man was his Master, Patrick Manson.

Philip Manson-Bahr

Professor Leiper's Contribution to Agricultural Helminthology

Robert Thomson Leiper, C.M.G., J.P., M.D., D.Sc., LL.D., F.R.C.P., F.R.S., Professor Emeritus of Helminthology in the University of London, Director for many years of the Department of Parasitology, London School of Hygiene and Tropical Medicine, of the Institute of Agricultural Parasitology, and of the Commonwealth Bureau of Helminthology, was born in Kilmarnock, Ayrshire, on the 17th April, 1881, and educated at Warwick School, Mason University College Birmingham and Glasgow University; he graduated in medicine in Glasgow in 1904.

His interest in helminthology, begun and encouraged whilst an undergraduate by his cousin, Professor Gemmill, continued (thanks to a Carnegie Research Scholarship in Biology) with a study of the Turbellaria of the Scottish National Antarctic Expedition. However, his stay in Glasgow was short-lived, because soon after (in 1905) he and another young medical graduate, C. M. Wenyon, were appointed by Sir Patrick Manson to the newly created positions of Helminthologist and Protozoologist, respectively, at the London School of Tropical Medicine which had been opened in 1899 at the Royal Albert Docks, London, E.

Leiper's primary duties at the School were concerned with teaching helminthology to medical graduates reading for the London or Cambridge Diploma in Tropical Medicine. This was formal class-room teaching which dealt with human disease-carrying organisms in the tropics. After the first World War, this was supplemented by similar teaching for the Dipoma of Public Health. His influence on health problems in the tropics—and to a lesser degree in temperate climates—was considerable, particularly when one realizes that there was practically no instruction in parasitology in the medical schools after the preliminary very sketchy course in zoology given at the beginning of the students' undergraduate career. Misconceptions about parasitology were legion. Leiper did much to redress the balance and helped to make the London School of Tropical Medicine one of the great teaching institutions of the world. Students came from all tropical countries for courses which at first lasted some three months, but later were extended to five; during the second World War these were replaced by an almost continuous series of short courses of two weeks, attended by nearly 2,000 medical officers from the allied Forces.

The peace time teaching was on a "block" system, each of the four major subjects (helminthology, protozoology, entomology, and bacteriology-mycology) lasting for about four weeks and occupying the major part of each working day. Much of the work was done in the laboratory. Lectures on clinical aspects of tropical diseases were given by visiting physicians in the late afternoon.

This technique of block-teaching left much time for research. This fitted with Leiper's own inclinations and under the influence of Sir Partick Manson—that same influence which encouraged Ross to prove the rôle of the mosquito in malaria—he commenced his investigations in tropical helminthology, investigations which in time touched upon almost every parasitic worm of importance to man.

Undoubtedly, the most outstanding of Leiper's many contributions was concerned with the Schistosomes or Bilharzia worms, several species of which live in the bloodstream of man and other animals and are estimated to infect about one-twentieth of the human race—over a hundred million persons—and cause one of the major disease complexes of mankind in the tropics.

Leiper's work, of course, covered a much wider range than the Bilharzia worms. He investigated the life history of the Guinea worm and discovered the elusive male of that species. He found that Loa loa of West Africa was carried by certain species of Tabanid flies. He described several new species of intestinal nematodes of man. He led an extensive investigation into British Guiana to study the pathology and epidemiology of Filariasis. He infected himself with the Fish tapeworm to determine its potential pathology.

The end of the first World War saw an increasing interest in parasitology. In the early days of medicine, it had occupied a place of considerable importance but bacteriology had been gradually displacing it. However, the institution of the degree of Doctor of Philosophy, and Leiper's reputation, caused a resuscitation of the subject and the development of a postgraduate school in helminthology at the London School. Leiper had a wide concept of how the subject should be studied and he insisted on the fundamental idea that it is a single entity whether one's primary interest is in the parasites of man, of domestic or wild animals, or even of plants, always returning from his overseas expeditions with a varied collection from the local fauna.

He was one of the earliest of the comparative helminthologists. He recognized the fact that all animals, not merely domestic ones, had these parasites and that an invaluable source of research material lay in Zoological Gardens. Immediately after the war he became—in addition to his professorial appointment—Director of the Prosectorium of the Zoological Gardens in London. Although he held this position for only three years, he and his assistants attended the Prosectorium for at least a decade thereafter in a daily search for new and interesting parasites which could be used for teaching or research. Among other investigations arising from this material, Leiper recorded the parasites of the almost newly discovered Okapi.

His activities were not confined to wild animals or birds in captivity, however, and the part he played in the celebrated investigation of Grouse Disease in Scotland is well known. But it was in farm animals that parasites were most important. The Ministry of Agriculture became

interested in 1921 and Leiper was among the first to receive a research grant to investigate the parasites of farm animals. Various biologists were added to his staff in London and active work began on the parasites of sheep, cattle, pigs and horses, as well as on the material collected at the London Zoo.

So many researches were undertaken that Leiper founded and published the Journal of Helminthology in order to find a speedy outlet for the papers resulting from this work. The first few volumes were devoted exclusively to articles by his relatively small staff—a permanent tribute to the enthusiasm which his direction inspired. That staff is now widely dispersed. Some are dead, others occupy Chairs of Parasitology in many of the Commonwealth countries where second or even third generations of parasitologists are being raised in the Leiper tradition of reading and thinking and experimenting to understand the complex life of the parasitic worms.

In 1924, a capital grant was obtained from the Development Fund to establish a field station for this work. A field station must of necessity be located in the country and Leiper searched far and wide throughout the Home Counties for suitable premises—finally selecting a derelict farm of some thirty acres, near St. Albans, which subsequently became known as the Institute of Agricultural Parasitology.

Most people would have pronounced Winches Farm entirely unsuitable—a farm house in disrepair, tumble-down farm buildings, some in imminent danger of collapse, a stock-yard inches deep in mud—all made up a depressing picture. Winches Farm was cheap, however, and funds were limited and Leiper could see through the existing chaos to the possibilities which later were actualized. One of his minor attributes has been a flair for transforming dilapidated buildings; given a free hand with a jobbing carpenter and a trivial financial grant and, as at Winches, cart sheds and outhouses became fully serviced laboratories and an old stable became a miniature banqueting hall which countless visitors have admired. By such changes as hacking out hideous Victorian fireplaces to reveal the original open hearth beneath, the farm house itself was restored to something like its Sixteenth Century beauty.

The initial research at the Farm was concerned with sheep and goats but it quickly was enlarged to include helminth parasites of insects and plant eelworms—a subject which in the passing of the years has become of increasing agricultural importance but which in the 1920's was still in process of being developed. The Institute persisted for twenty-three years. In 1946—a year after Leiper's retirement as Director—the work on eelworms was transferred to the new Nematology Department at Rothamsted Experimental Station, Harpenden and Winches Farm became the Field Station of the London School of Hygiene and Tropical Medicine. Thus the Institute's work continues to flourish under other names, though its comprehensive scope is now lacking.

No branch of science can flourish without an adequate literature and because helminthologists were few and widely scattered, references were often difficult to trace. Leiper was always alive to the bibliographical problems of his subject and in 1923 he published his "Periodicals of Medicine and the Allied Sciences in British Libraries"—a forerunner of the "World List of Periodicals". His knowledge of the literature of his subject is profound; no one is better acquainted with the early writings on helminthology and his library of these works is unsurpassed. An Imperial Agricultural Research Conference was called in 1927 to consider the collection and dissemination of scientific information bearing upon agriculture and as a result eight specialist Imperial Bureaux were created—one of which, now called the Commonwealth Bureau of Helminthology, came under Leiper's direction and which he continued to direct for thirty years.

In 1929, the Bureau came into existence first in a converted byre, later in the old farm house at Winches Farm—with an office at the School in London. The filing and indexing of titles and abstracts began forthwith, leading to the publication of the "Bibliography of Helminthology" for 1930 and 1931. In 1932, this was incorporated in "Helminthological Abstracts", now in its thirtieth year of publication. The abstracts were published in an unusual form, being grouped by journals rather than by subjects. As each volume was deliberately confined to papers published during one calendar year, the issue of the final part of each volume was in consequence always postponed to provide for the inclusion of abstracts of papers which were traced with difficulty.

Leiper had long been associated with the Tropical Disease Bulletin of course, and had developed the ability to condense the essence of an article clearly and concisely to an irreducible minimum of words. Helminthological Abstracts (many of the abstracts being from his own pen) continued the practice, making them the basic research tool for all helminthologists.

Leiper retired in 1958—officially—but he is still hard at work in a room in the White House at St. Albans—the present headquarters of the Bureau. His administrative and organizational duties are completed and he is again free to turn once more to his personal research.

It is difficult to determine what constitutes a great biologist. It is a complex of almost indefinable characteristics. These include a clear but logical imagination, the ability to visualize the future trend of his research, and a boundless energy. Perhaps even more important is the gift of teaching his students how to learn so that in this manner his own work can never be completed and his influence on his subject can never diminish.

Ian Clunies-Ross Thomas W. M. Cameron Bernard G. Peters

Other Activities

Much has been written about Professor Leiper's achievements in the scientific sphere yet there is still much to be recorded and in the limited space of a "festschrift" full justice cannot be done to this subject. For example, a list of his scientific publications, numbering over 130, might have been included. It is equally impossible on this occasion to give an adequate account of the many other aspects of his long and brilliant career which in itself would merit a separate volume. The following précis is intended merely to indicate the breadth of his interests during a lifetime of outstanding activity.

He was a Member of the following Scientific Bodies: Royal Society of London, (Member of Council, Member of the Tropical Diseases Committee and Abstracting Services Consultative Committee); Royal Society of Medicine, (Vice President of Council and President of the Sections of Comparative Medicine and Tropical Diseases and Parasitology); Royal Society of Tropical Medicine and Hygiene, (Councillor); British Medical Association, (Vice President of the Tropical Medicine Section, Centenary Year, and Vice Chairman of the Dominions Committee); West Indian Medical Conference in British Guiana, (Vice President); Zoological Society of London, (Director of the Prosectorial Committee); League of Nations Schistosomiasis Conference in Geneva, (Chairman); Italian Society of Tropical Medicine Conference, (Hon. Vice President); Association of Applied Biologists, (Treasurer and Member of Council); British Empire Cancer Campaign, (Member of Grand Council and Scientific Advisory Committee); Lister Institute, (Member); University of London, (Boards of Studies in Hygiene, Agriculture, Zoology, Pathology and Estate Management).

He received Honorary Membership of: the National Veterinary Association; National Institute of Sciences of India, (Hon. Fellow); American Society of Parasitologists; Helminthological Society of Washington; Société Pathologique Exotique, Paris; Société Belge de Médecine Tropicale and the Accademia di Medicina, Rome.

He was a Member of the Egyptian Government Survey in Uganda 1907; he was Consultant Parasitologist and temporary Lieut.-Col. R.A.M.C., Bilharzia Mission in Egypt (1915-1916).

He served on two important Government Bodies—Colonial Office, (Member of the Advisory Medical Committee and the Colonial Veterinary Services Committee); Agricultural Research Council, (Member of the Committees on Animal and Plant Helminths, Swine Fever and Similar Diseases, Animal Diseases and Animal Nutrition).

His services as External Examiner in helminthology and related subjects were much in demand from the Royal College of Veterinary Surgeons (Veterinary Parasitology) and the Conjoint Board (Parasitology). He was examiner for helminthological theses for higher degrees in the

Universities of London, Cambridge, Bristol, Birmingham, Reading, Liverpool, Aberdeen, Edinburgh, Dublin, Galway, Wales, Melbourne, McGill (Montreal), Cairo, Allahabad, Lahore, Lucknow, Madras, Osmania (Hyderabad) and Panjab.

He was Assessor for Medical Research Scholarships of the Grocers' Company.

No précis of his career would be complete without some mention of Professor Leiper's association with the London School of Hygiene and Tropical Medicine (of which he was at one time Acting Dean) and its predecessors at Endsleigh Gardens and the Royal Albert Docks. Suffice it to say that his energy and far-seeing administrative vision have played a prominent part both in the evolution and transitional episodes of the School throughout its celebrated existence. To him also must be attributed much credit for the world-wide honoured position accorded to the School as a scientific centre for teaching and research; his able Directorship of the Department of Parasitology did much to enhance this reputation.

During his long residence in Hertfordshire, Professor Leiper took a keen interest in local affairs; he served on local government bodies such as the St. Albans Rural District Council of which he was Vice Chairman; St. Albans Joint Hospital Board, (Member); Wheathampstead Parish Council, (Chairman). He has been a Justice of the Peace for Hertfordshire for many years.

Professor Leiper's affinity for the rural environment is exemplified by his enjoyment of countryside rambling and by his ownership of three farms, two of which he farmed in Scotland and one in Hertfordshire, undertakings which illustrate his boundless and characteristic energy; his aptitude for "converting" old farm houses, almost single-handed, could have earned for him the reputation of being the originator of the "do-it-yourself" cult. To furnish these buildings he would attend the local auction sales where his keen eye for a good bargain or a useful piece of equipment served him well.

As a scholar and writer and speaker, Professor Leiper has ample cause for pride in personal achievement. One of his most treasured realisations—the ambition of every Scot—was to propose the "Immortal Memory" for which he characteristically took as his theme—not Robert Burns' love poems—but his many Natural History observations.

In the year 1958 he retired from the Directorship of the Commonwealth Bureau of Helminthology, at the early age of 77, but since then he has continued as a voluntary worker at the Bureau in St. Albans.

His recent re-appointment, nearing his 80th birthday, as Consultant Helminthologist to the Bureau in an active capacity, will come as no surprise and will give much pleasure to those who are aware of his indefatigable zest for work and for promoting the interests of helminthology.

May he enjoy this "recreation" ad multos annos!

J. J. C. Buckley (Editor).
L. M. Russell (Assistant Editor)



Photograph by the "Herts Advertiser"

Professor Leiper receiving from Sir William MacArthur a presentation copy of the Festschrift (Journal of Helminthology) at the London School of Hygiene and Tropical Medicine on the occasion of his 80th birthday, 17th April, 1961.



Photograph by Mr. L. F. Khalil

Presentation of the Bernhard-Nocht Medal. Left to right: Sir Wilson Jameson, Dr. Elsie Toms (Mayor of St. Albans), Professor R. T. Leiper, Mr. Elmar Weindel, (Attaché to the Embassy of the Federal Republic of Germany), Professor Jean G. Baer (Switzerland), Professor T. W. M. Cameron (Canada), Professor G. Macdonald (Acting-Dean, London School of Hygiene and Tropical Medicine).





TROPENINSTITUT
BERNHARD-NOCHT-STRASSE 74
HAMBURG 4
TELEFON 31 1921

April 12, 1961

Dear Dr. Leiper,

I have great pleasure in informing you that the staff members of the Hamburg Tropeninstitut have agreed upon unanimously to award to you the

Bernhard-Nocht-Medaille

for your outstanding merits in the field of Tropical Medicine.

We may ask you to accept this scientific distinction awarded to you on the occasion of your 80th birthday as a token of our veneration and gratitude.

With best wishes

Yours sincerely,

Prof.Dr.Nauck Director

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