

EDITORIAL : VAN DIE REDAKSIE

THE SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH

During the coming week the South African Institute for Medical Research celebrates the 50th anniversary of the laying of its foundation stone by Sir Kendal Franks, president of the South African Committee of the British Medical Association, on 23 April 1913.

Fifty years is a short time in the history of a country but, perhaps not surprisingly, there are very few large medical research institutes older than the South African Institute for Medical Research.

It was established by agreement between the Government, represented by the Department of Health, and the Transvaal Chamber of Mines. Its objects, set forth in the Agreement, were:

'To conduct researches and investigations with a view to the prevention and treatment of human disease, including researches and investigations

- (i) into the causes and methods of diagnosis, prevention and the treatment of human disease;
- (ii) in the fields of pure and applied bacteriology, pathology, parasitology, pharmacology and other branches of the medical and allied sciences;

'The Institute may, in addition, undertake public health, medical-legal, pathological, bacteriological, serological, clinical and other routine investigations and procedures, and all such work as is ordinarily carried out in a public health laboratory; and may manufacture, purchase and sell all such vaccines, sera and other preparations, products, appliances and material as may from time to time be approved by the Board.'

In the fifty years since it was established, the Institute, in faithfully pursuing these objectives, has played an important role in defining the medical problems of this sub-continent and in helping to solve some of them. It is appropriate at this time to recall some of the early milestones on its journey. The diseases seriously affecting the health of the miners on the Witwatersrand gold mines — pneumonia, meningitis and silicosis — first claimed the attention of the staff.

A discovery of fundamental scientific value was made by Sir Spencer Lister when he showed that there were several distinct immunological types of pneumococci. This led to the development of the polyvalent pneumococcal vaccines which were widely used to protect the workers on the gold mines. Meningitis was another important disease which often claimed many victims. Treatment by the administration of meningococcal antiserum prepared

at the Institute resulted in a significant decrease in the mortality rate, but it was not until the introduction of the sulphonamides that the problem was satisfactorily solved. The value of mass sulphonamide prophylaxis for the control of epidemics of meningitis in military camps was first clearly shown by members of the staff of the Institute serving with the South African Medical Corps.

In studies on bilharzia, *Physopsis africana* was incriminated as the intermediate host of *S. haematobium*, and *Planorbis pfeifferi* as the intermediate host of *S. mansoni*, and the distribution of bilharzia in South Africa was accurately delineated. The early studies of anopheline mosquitoes and the incrimination of *Anopheles gambiae* and *Anopheles funestus* as the important vectors of malaria in Southern Africa, and the clear delineation of their habits, was the basis for the extensive campaign undertaken by the State Health Department, which has resulted in the virtual elimination of malaria from almost the whole of South Africa.

Systematic studies of plague and its rodent reservoirs and their fleas have clearly defined the problem and facilitated measures for its control. The determination of the importance of relapsing fever in causing sickness among mine workers and farm labourers led to the development of methods for its eradication. The finding of cases of hookworm, yaws and sporotrichosis among the underground workers in the gold mines led to measures for the elimination of these conditions.

Other notable contributions have called attention to the occurrence of chronic progressive histoplasmosis and of cave disease, to the frequency of porphyria in the South African population, and to the geographical and racial incidence of the different forms of cancer.

In all these fields the programme of research has been continued and in most of them it has been extended.

In more recent times the main emphasis of research has shifted to the study of nutrition and the degenerative and malignant diseases. Several special units have been established to facilitate the work. Four of these units are supported jointly by the Council for Scientific and Industrial Research and by the Institute. Several others are supported jointly by the Institute and other public bodies,



The South African Institute for Medical Research
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including the Poliomyelitis Research Foundation, the National Cancer Association, and the Bureau for the Prevention of Blindness.

The production of prophylactic vaccines and therapeutic sera has been an important activity of the Institute since its inception; it also produces antivenenes against the venom of all the important local snakes.

The definition of the distribution of the blood groups in the different racial groups in Southern and Central Africa has been a significant contribution to the science of anthropology. During World War II the Institute played a part in providing blood and plasma for the Defence Forces. It continues to provide a blood transfusion service for the mine hospitals.

Since the beginning the Institute has worked in close collaboration with the mine hospitals, and in particular with the hospital of the Witwatersrand Native Labour Association. Some of its best-known work has resulted from this collaboration. It has also established medical laboratories in the precincts of all the large provincial hospitals in the Transvaal and Orange Free State and in parts of the Eastern Cape Province, and so provides a comprehensive medical laboratory service for most of South Africa. The information collected in the course of the routine work of these laboratories has been invaluable to the State Health Department and other health authorities in assessing the health problems of this country.

The Institute has also 'mothered' and guided through their early years several other important medical organizations which have since grown up and become independent. These include the Miners' Phthisis Medical Bureau, which was provided with accommodation and all facilities

until it was moved to its present site; the Pneumoconiosis Research Unit, which had its origin in the studies of Watkins-Pitchford, Mavrogordato, Simson and Strachan; the Rand Blood Transfusion Service, which has evolved into the South African Blood Transfusion Service; and the Applied Physiology Laboratory, which was first established and provided with accommodation by the Institute.

In building up a comprehensive medical laboratory service and in arranging for training courses, the Institute has provided facilities which have often proved of value to the other territories in Africa. Some of this inter-territorial assistance has recently been sponsored by the World Health Organization and placed on a more formal basis. The Institute has been appointed the WHO Reference Centre for a number of important infections, and the WHO also depends on the Institute for help in the implementation of some of its research and control programmes in Africa.

From the outline we have given, it can be seen that the record of the Institute's first fifty years in medical research, medical education and the provision of medical laboratory services, is an impressive one, and it has rightly won it international recognition.

This number of the *Journal* celebrates the Institute's Golden Jubilee and includes articles from members of its staff which reflect the wide range of research at present being undertaken there; research which is constantly being expanded to meet the needs of Africa.

We extend to the Director and his staff our congratulations on this 50th anniversary and our best wishes for the future.

DIE SUID-AFRIKAANSE INSTITUUT VIR MEDIESE NAVORSING

Die Suid-Afrikaanse Instituut vir Mediese Navorsing vier vanjaar die 50-jarige herdenking van die grondlegging van die hoeksteen op 23 April 1913 deur sir Kendal Franks, president van die Suid-Afrikaanse Komitee van die Britse Mediese Vereniging.

Sedert sy stigting 50 jaar gelede speel die Instituut 'n uiters belangrike rol in die definiëring en oplossing van mediese probleme in Suid-Afrika. By hierdie geleentheid is dit dus paslik om aan 'n paar belangrike mylpale in die geskiedenis van die Instituut terug te dink.

In die eerste instansie het die personeel hul aandag geskenk aan siektes soos pneumonie, meningitis, en silikose, wat die gesondheid van die mynwerkers op die Witwatersrand ernstig aangetas het. 'n Ontdekking van fundamentele wetenskaplike waarde is gemaak toe sir Spencer Lister bewys het dat daar verskeie afsonderlike immunologiese pneumokokke-tipes is. Dit het gelei tot die ontwikkeling van polyvalente pneumokokke-entstowwe wat alom vir die beskerming van mynwerkers op die goudmyne gebruik word.

In die jongste tyd val die klem van navorsing by die Instituut op die studie van voedingsprobleme en die degenererende en kwaadaardige siektes. Verskeie spesiale eenhede is gestig om hierdie navorsing te vergemaklik. Vier van hierdie eenhede word gesamentlik ondersteun deur die Instituut en die Wetenskaplike en Nywerheidsnavorsingsraad, terwyl ander gesamentlik ondersteun word deur openbare liggame soos die Poliomiëlitis-navorsings-

instituut, die Nasionale Kankervereniging, en die Buro vir die Voorkoming van Blindheid.

Een van die belangrikste bedrywighede van die Instituut sedert sy stigting was nog altyd die vervaardiging van profylaktiese entstowwe en terapeutiese sera. Entstowwe teen pneumonie, difterie, tetanus, tifoïed, geelkoors, en influensa was ontwikkel en word in groot hoeveelhede vervaardig. 'n Stelselmatige studie van slanggif het die Instituut in staat gestel om antivenen vir die behandeling van slangbyt deur al die belangrike soorte slange in Suid-Afrika te vervaardig.

Die Instituut speel ook 'n belangrike rol in mediese opleiding. Lede van die personeel het onderrig gegee in die eerste kursusse in patologie, bakteriologie en parasitologie aan die Mediese Skool van die Universiteit van die Witwatersrand en was hoofsaaklik verantwoordelik vir die eerste leergang van die Diploma in Openbare Gesondheid en Tropiese Medisyne van die Universiteit. Hulle groot aandeel in hierdie mediese onderrig duur voort.

Die rekord van die Instituut se eerste 50 jaar van mediese navorsing, mediese opleiding en die voorsiening van mediese laboratoriumdienste is indrukwekkend en het vir die Instituut internasionale erkenning verwerf.

Hierdie uitgawe van die *Tydskrif* herdenk die Goue Jubileum van die Instituut, en bevat artikels deur lede van die personeel wat lig werp op die wye navorsingsveld wat tans gedek word en wat nog steeds uitgebrei word om in die behoeftes van Afrika te voorsien.