Middle Articles

Some Medical Institutions in Australia

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If the Australian outback suggests the romantic tradition of sheep by the hundred million and stockmen mustering vast mobs of cattle, it nowadays calls up also the picture of the Flying Doctor Service. This organization was the pioneer of all schemes of airborne medical services for civilians in areas remote or difficult of access.

Their essential features comprise a simple means of radio communication, the aeroplane, and the doctor. Not till 1928 was it possible to establish the first Flying Doctor base, at Cloncurry, in Queensland. From this beginning has been developed a service with other bases to cover the two million square miles of the Australian inland, much of which is sparsely settled.

The scheme was the inspiration of the Rev. John Flynn, appointed in 1912 by the Presbyterian Church as the first Superintendent of its Australian Inland Mission. Distressed by sufferings of the sick in the outback—perhaps 50 miles from the nearest neighbour, and up to 400 miles from the nearest doctor—he realized that the only solution must be air transport for the doctor, and often for the patient. A main problem, he said, was to find “a radio set that will send out messages and receive them. It must be able to work where there is no electric power, and be simple in operation.”

For seven years Flynn sought in the cities for someone who could build such a set. Then the answer came from Alfred Traeger, a young radio engineer who within a year invented a “transceiver.” To make use of it, however, all the inland folk would need to learn the Morse code. And where would the electric power come from on isolated stations? But the ingenious Traeger next equipped his transceiver with bicycle pedals—which would leave the operator free to dot-dash in code. Traeger’s devoted work produced further inventions. Today the set may be battery-operated, while in 1935 improvements in transmission made it possible to send messages by voice.

In 1933 the Australian Inland Mission handed over its Aerial Medical Service to a secular, national organization. From 14 bases more than 20,000 calls a year (none of them charged for) are now taken by the Royal Flying Doctor Service of Australia.

John Curtin School of Medical Research

The largest of the many research institutes in Australia is the John Curtin School of Medical Research. This is one of six research schools which make up the Institute of Advanced

Studies of the Australian National University in Canberra, the national capital.

The John Curtin School (named to commemorate a former Australian Prime Minister) was conceived by the late Lord Florey, who directed its early development. It is now a centre with an international reputation in many branches of medical science. The school consists of seven academic departments, six in the basic medical sciences and one in clinical science. Staffed by about 100 research scientists, it accommodates some 50 research students studying for the Ph.D. degree. The head of the school is Professor Frank Fenner, F.R.S., a distinguished virologist. Departments with a strong medical orientation include experimental pathology (head, Professor F. C. Courtice); microbiology (acting-head, Dr. C. A. Mims); physiology (head, Professor P. O. Bishop); and clinical science (head, Professor H. M. Whyte).

Two main lines of investigation are pursued in the department of experimental pathology: firstly, the origin and development of atherosclerosis, and, secondly, the role of the lymphatic system and lymphoid tissue in immunological responses. In the department of microbiology, concerned with animal viruses, work of medical interest includes the development of the new influenza virus vaccine, recently marketed by the Commonwealth serum laboratories; the characterization of encephalitis viruses from New Guinea; and study of the pathogenesis of viral infections of the foetus.

Professor P. O. Bishop is distinguished for his contributions to the physiology of vision, especially the neural control of binocular vision. Professor D. Curtis is using microelectrode and chemical techniques to study the nature of the transmitter substances at synaptic endings.

At the department of clinical science, recently established in the Canberra Community Hospital, Professor H. M. Whyte and his colleagues are engaged on correlated clinical and biochemical studies relating to obesity, diet, physical activity, and coronary disease. This work in Canberra is linked with a long-term epidemiological study of natives in New Guinea, in an area where a rapid change is likely from primitive to Western ways of life.

Walter and Eliza Hall Institute of Medical Research Melbourne

This Institute, with its whole work centring on research in immunology, acquired international fame when its former director, Sir Macfarlane Burnet, O.M., F.R.S. (1944-65), shared the Nobel Prize for Medicine in 1960.

Though it is an independent research organization, the Institute maintains an affiliation with the University of

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SYDNEY UNIVERSITY AND SOME MEDICAL INSTITUTIONS IN AUSTRALIA

Picture above shows the Great Hall of the University of Sydney. Founded in 1850, the university is the oldest in Australia. It occupies a site of some 117 acres between roads leading westward from the city.

All the scientific sessions of the Joint Annual Meeting of the B.M.A. and the Australian Medical Association, associated with the Third Australian Medical Congress, will be held in the University of Sydney (see programme at p. 35 of this week's *Supplement*).

An interior view (up to the dais) of the Great Hall of the University of Sydney.

Kanematsu Memorial Institute, Sydney. This is situated within the grounds of Sydney Hospital.

A view in the cloisters enclosing the Quadrangle, University of Sydney.

The photographs of the Fisher Library, the Union Theatre, and the Quadrangle of the University of Sydney were provided by the Australian News and Information Bureau.

Fisher Library, University of Sydney. This library contains approximately one million volumes.

Union Theatre, University of Sydney.

A patient being carried to the "Flying Doctor" plane on the landing strip of a sheep-raising property in western New South Wales. The Royal Flying Doctor Service of Australia provides regular medical attention for people scattered over vast distances of inland Australia.

Walter and Eliza Hall Institute of Medical Research,
Melbourne, Australia.

John Curtin School of Medical Research, Australian
National University, Canberra.

Melbourne and the Royal Melbourne Hospital. The Institute comprises five research units. Headed by Professor G. J. V. Nossal, the present director of the Institute, the cellular immunology unit is devoted to a study of autoimmune diseases in special strains of mice. The cancer research unit, directed by the Carden Fellow of the Anti-cancer Council of Victoria, Dr. Donald Metcalf, is engaged in a continuous study of leukaemia with special reference to lymphatic leukaemia. A main aspect of the work is the investigation of various factors in the serum of human beings and animals with leukaemia which permit the growth of bone-marrow cells in vitro.

Department of Medical History, Melbourne

Unique in Australia's learned institutions is the department of medical history at the University of Melbourne.

Established through a generous gift from the Wellcome Trust, it was opened by Dr. F. N. L. Poynter, director of the Wellcome Historical Medical Museum and Library, in April 1967. Its head is Dr. K. F. Russell, an associate professor at the department of anatomy at the university and reader in medical history.

Displays in its museum include the contents of a colonial pharmacy opened in the goldfields town of Ballarat in 1854.

Transfusion apparatus is on view here, together with the traditional pestle and mortar.

Kanematsu Memorial Institute, Sydney

A notable research centre in Sydney, the Kanematsu Memorial Institute derives its name from one of the city's Japanese business firms, which in 1933 provided funds for its foundation as a memorial to the firm's founder, Fusajiro Kanematsu, and to his wife, Sen Kanematsu.

The former director, Dr. J. C. Eccles, who was appointed in 1937, organized an active neurophysiology research unit. As Professor Sir John Eccles, F.R.S., of the John Curtin School of Medical Research, he shared the Nobel Prize in 1963 for his work on nerve cells. At present the deputy (and acting) director is Dr. A. A. Palmer.

Both fundamental and applied research at the Institute have been related principally to the cardiovascular-renal field. Its main function, however, has always been to supply the routine pathology services of Sydney Hospital, where the building housing the Institute is situated. The Institute's department of clinical pathology has an active role in teaching and research. Its staff, besides training specialists in their own disciplines, conducts regular postgraduate seminars.

Royal Commission on Medical Education

The Report of the Royal Commission on Medical Education was published on 4 April, and a summary of its findings is printed below (leader p. 65). The Commission was set up in 1965 "to review medical education, undergraduate and postgraduate, in Great Britain, and in the light of national needs and resources, including technical assistance overseas, to advise Her Majesty's Government on what principles future development (including its planning and co-ordination) should be based; in particular, in the light of those principles and having regard to the statutory functions of the General Medical Council and the current review by that Council of recent changes in the undergraduate curriculum, to consider what changes may be needed in the pattern, number, nature or location of the institutions providing medical education or in its general content."*

The Commission set out to forecast on the basis of past and present trends the pattern of medical care in Britain in the future, the number of doctors that will be required to provide this care, and the changes that will need to be made in medical education in the light of the forecasts.

Future Pattern of Medical Care

The Report states the first step in the normal sequence of medical care for individual patients will continue to be a consultation near their homes with a family physician. Though general practice will continue, the Report suggests that there is wide agreement that the single-handed general practitioner and the traditional street-corner consulting room will not survive beyond the present generation. The most widespread form of practice in the future will be groups of 12 or more doctors, with assistance from nurses and other non-medical staff. The Report describes health centres as "the most obvious and natural setting" for such practices, in which general practitioners and local authority staff will form a single team.

The Report suggests that the trend in the hospital service will be to larger and fewer hospitals—primary medical care will be the responsibility of general practitioners, and health centres may well have beds for short-stay cases and facilities for minor surgery.

The concentration of hospital services into larger units will make it less likely that consultants will have multiple attachments, and clinical "firms" will be fused to form divisions. The Report suggests that rationalization of the staff grading structure will result in more appointments of clinical assistants, some of whom would be general practitioners.

The Report describes as "community medicine" the specialty practised by epidemiologists and administrators of medical services and by the staff of corresponding academic departments. It forecasts that many of the present functions of local authority medical officers will pass to technically qualified lay officers, and also forecasts little if any expansion of numbers of doctors in the industrial health services and in the armed Forces.

Numbers of Doctors Needed

The Commission decided early in its inquiry that "a substantial increase of output of medical graduates was required without delay" and in June 1966 recommended to the Government that steps should be taken to expand existing medical schools and to establish new ones. The Government agreed to bring forward the redevelopment of the school at Leeds and the opening of the new school at Southampton. Nevertheless, the Report suggests that a deficit of 10,000

doctors will have accumulated by 1976. The numbers of doctors per million of population has been rising in all advanced countries in the twentieth century, and the Report points out that Britain already lags behind Belgium, Western Germany, Australia, and the U.S.A. in this respect. On the basis of this and other calculations the Report estimates the number of doctors required in Britain in 1995 to be 119,800 as compared with 62,700 in 1965; and after taking into account factors such as emigration the Report suggests that 4,550 graduates will be needed each year in the 1990s. This is almost double the estimated number of graduates in 1975.

Changes in Undergraduate Training

The Report is emphatic that the undergraduate course in medicine should be educational. "Its object is to produce not a fully qualified doctor, but an educated man who will become fully qualified by postgraduate

* The members of the Commission were: Lord Todd (Chairman), Lord Platt, Sir Edward Collingwood, Sir Brian Windeyer, Sir Peter Medawar, Professor A. G. R. Lowdon (died September 1965), Dr. J. R. Ellis, Miss Josephine Barnes, Professor G. M. Carstairs, Mr. G. F. Dixon, Professor Andrew W. Kay, Mr. J. N. M. Parry, Professor J. R. Squire (died January 1966), Professor R. M. Titmuss, Dr. E. M. Wright (resigned August 1967), Professor F. G. Young, J. N. R. Barber, Esq., Mrs. E. M. Chilver, Professor C. M. Fleming, and Professor G. M. Wilson.