The question whether AID as a legitimate medical service should qualify for the payment of medical benefits was answered in the affirmative in the U.K., when in 1971 a BMA-appointed panel under the chairmanship of Sir John Peel (a former President of the Royal College of Obstetricians and Gynaecologists) recommended that it should be made available on a limited basis within the National Health Scheme.[1] In Australia, where presently AIH but not AID qualifies for medical benefits, the Federal Council of the AMA recommended that no distinction should be made in relation to the origin of semen in payments of benefits, at the same time expressing a strong objection to payment of benefits on donors' fees.[6] It appears, however, that no consideration has been given to payment of medical benefits for the acknowledged as necessary extensive psychological examinations and preparation of the recipients of AID and their husbands,[25 30] or for the services of the advisory body of experts who should participate in the selection of couples suitable for AID.[7] It seems that the issue of such payments may resolve itself spontaneously with increasing growth and refinement of AID service.

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Medical History

DR ANTON BREINL AND THE AUSTRALIAN INSTITUTE OF TROPICAL MEDICINE*

PART 1

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> So one shall Baltic pines content,
> As one some Surrey glade,
> Or one the palm-grove's droned lament
> Before Levuka's Trade.
>
> KIPLING (1902)

* The Forty-Sixth Jackson Lecture, delivered at the Twelfth North Queensland Medical Conference on Monday, September 13, 1976, in Rockhampton.

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THE POET regards the various choices open as to where one lives as equal and immaterial; each to his choice, and most of those that I mention made the choice to live where the trade wind blows, perhaps sounding a lament for the past, but also perhaps a welcome for the European newly returned to the ancestral climate of his early development.

One of the inconvenient features about Australia, when it was first settled, was the irrefutable fact that 40% of the country lay in the tropics, and most of the rest was really subtropical. How could one colonize with white colonists a continent which

all conventional wisdom regarded, as far as its tropical part was concerned, as likely to prove deadly to the Colonists and to their descendants? Thus in 1844 Willem Bosch wrote, "we are absolutely certain about the accuracy of our hypothesis: that to (every section of) mankind is given a particular place by the Lord of Creation which is his Native Land where all things are so placed as to suit him particularly and thus preserve his race. He cannot trespass the length and breadth of this boundary without great damage to his health, and damage to his life".[1]

The evidence given before the Royal Commission of Health in 1870 was amazing in its antiquated ignorance. The germ theory of disease was still a mockery; "climate", "miasmata", "corruption of the air", "the wrath of God", and "foul odours" were regarded as the causes of disease.[1]

Dr J. S. C. Elkington was early into the controversy, and in 1905 delivered a paper to the Royal Society of Tasmania entitled "Tropical Australia, is it suitable for a working white race".[2] He stated:

> It was and to many people still is—the fashion to speak of the 'deadly climate' of tropical places, and up to the middle of the last century the adjective appeared to be substantiated. In 1863, however, the Indian Sanitary Commission drove the first nail in the coffin of 'climate' by ascertaining that the causes of the high mortality amongst European soldiers there, were to be mainly found in a few zymotic diseases which we now know to be eminently preventable and in certain 'removable conditions and habits'.

Elkington also quotes an American writer in Manila as pointedly remardking: "It is not so much the climate as the glass bottle which injures people out here."[2]

Old ideas die hard, and two years later, in 1907, Macfie, as quoted by Courtenay,[3] brought up all the old arguments about climate to prove that the Australian tropics could only be settled by a coloured race. At the turn of the century it still seemed that most people were still doubtful as to whether the Australian tropics could be settled by what was called a working white race.

So far as the rest of the country was concerned there was universal belief in the idea that the White Australia Policy was a good thing. In the first Commonwealth Parliament, held in 1901, Manning Clark[4] stated, "On the policy of White Australia the members of all parties, except two doctrinaire free traders in the Senate, were in agreement"; and also he stated, "But the believers in the brotherhood of man and the equality of all in the sight of God were silent. So the men who believed that the unity of labour was the hope of the world, united with the apostles of Christian civilization to preserve Australia for the white man".

Hence, at the turn of the century there were the seemingly irreconcilable ideas that the white man could not colonize the tropics, and the White Australia Policy which had become law in 1901 through the *Immigration Restriction Act*. Little wonder that, when Elkington gave the paper mentioned before to the Royal Society of Tasmania on November 21, 1905, it was seized on by the Senate and printed on November 30, 1905.[2] Elkington stated that he had no political axe to grind, and in a well reasoned argument declared that he could see no difficulty in colonizing the Australian tropics with a working white race.

In the arts the *fin de siècle* was spoken of as a time of degeneracy as though everything was too much; the century had been so full of happenings that all were tired with the constant effort. In medicine, however, the latter third of the century had shown an enormous increase in knowledge so as to constitute a complete revolution in infectious diseases, and nowhere was this more evident than in the diseases common to the tropics. In 1877 Dr Joseph Bancroft, of Brisbane, discovered the adult filarial worm in a patient, and in the same year Sir Patrick Manson identified the *Culex* mosquito as the vector of *Filaria*, the first time an insect cause of disease had been detected (this was a completely revolutionary idea). In 1881 Dr Carlos Finlay expressed the view that yellow fever was carried by the *Stegomyia* mosquito, this was later proved to be correct. In 1880 Dr Alphonse Laveran discovered the malaria parasite in the blood of patients, and in 1897, Sir Ronald Ross linked the *Anopheles* mosquito to the transmission of malaria. In 1894 Sir David Bruce discovered *Trypanosoma brucei*, a representative of a whole new class of parasites, and then in 1903, with others, worked out that *Trypanosoma gambiense* was the cause of sleeping sickness, and that it was carried by the tsetse fly. Incidentally it should be remembered here that at various times Dr Anton Breinl suffered from malaria, and also had yellow fever and sleeping sickness.

These marvellous discoveries led Sir Patrick Manson, who had spent many years in China, to the belief that special research institutes should be set up to study tropical diseases, and to instruct doctors in their management. This genius of a man had returned to London from Hong Kong in 1890 and set about trying to improve the study of tropical medicine. He pointed out that London was the centre of the greatest empire that the world had ever known, and for 300 years a large part of it had lain in the tropics, in spite of which there were no facilities for investigating or teaching about tropical diseases. Manson became medical adviser to the Secretary of State for the Colonies in 1897. The Secretary of State at that time was Mr Joseph Chamberlain, who had previously been a Radical Liberal, but was now a Liberal Unionist. This far-sighted statesman immediately saw Manson's point of view, and most expeditiously arrangements were made to found two schools—namely, the Liverpool School of Tropical Medicine, and the London School of Tropical Medicine, both of which opened in 1899, the Liverpool School a few weeks before the London School. Doubtless the Liverpool School was necessary, because Chamberlain was a midlands politician. The fashion having been set, everybody got on the bandwagon, and institutes were opened in Hamburg in 1900, in Belgium in 1901, and later in Paris, Bordeaux, Marseilles, Italy, India and the U.S.A.

Australia was, and still is, largely a derivative society, so what others had we also wanted, and the matter was first raised by Dr F. Goldsmith, a South Australian practising in Darwin. In delivering a paper at the Intercolonial Medical Congress of Australia in Hobart in 1902, he pointed out the necessity for the study of tropical medicine in Australia.[5] Goldsmith was influenced by Manson as he said that he had known Manson well in the first two to three years of this century. Dr A. H. Baldwin mentioned this in a memorandum dated May 8, 1937.[6]

Dr R. A. O'Brien now enters the scene. He graduated in Melbourne in 1902 and practised in Cairns from 1904 to 1910, when he left for England; there he had a distinguished career as Director of the Wellcome Physiological Research Laboratory from 1914 to 1940. He delivered the Jackson Lecture in 1949. He was the first in Cairns to use a microscope to identify malaria parasites.[7] O'Brien would have been aware of the recommendation of the Hobart Congress, that it would be advisable to found an Australian institute for the study of tropical medicine, and this idea was implanted in the mind of Dr Frodsham, Bishop of North Queensland, by O'Brien in the year 1907, during a long talk they held in Cairns. No doubt the bishop had been aware, over the preceding five years since his consecration, of the prevalence of tropical disease in his diocese, and of the need to remedy matters. He also had a personal interest in the question, as his two daughters had suffered from some unknown type of fever, and the family governess had died from the same illness.[8] This supplied

motive enough for him perhaps, to display the extraordinary energy that he did in securing the establishment of the Australian Institute of Tropical Medicine.

It took the bishop only two years to accomplish his object. He seems to have known a lot of influential people, and at the dinner held to welcome Dr Anton Breinl, early in 1910, the bishop especially mentioned the State Governor, Lord Chelmsford, and Sir Charles Lucas, the Secretary of State for the Colonies in London. He also mentioned Mr W. K. D'Arcy of Rockhampton, who made the highest contribution of all to the Institute—namely, £1,000, which in those days was a great deal of money.[9] The Townsville institute was the first institute of medical research in Australia, antedating the Walter and Eliza Hall Institute in Melbourne by six years. It is interesting that a large part of the financial sinews for the foundation was contributed by a Rockhampton man, and of course the Halls of the Hall Institute also came from Rockhampton. So Rockhampton "grub-staked" the first two institutes of medical research in Australia.

On January 31, 1907, we find Bishop Frodsham writing to the Governor General of the Commonwealth, Lord Northcote;[10] in this letter he mentioned having stayed with him so he must have known him fairly well. Enclosed with the letter was his printed proposal entitled "Memorandum from the Bishop of North Queensland containing a scheme for the furthering of the scientific study of the diseases of Tropical Australia". In this he mentioned that the institute was to be modestly staffed with one medical officer at a salary of £400 and a working assistant at £100, and that incidental expenses would be £200 (a total of £700 a year). The estimate was made by Professor Anderson Stuart. The bishop secured the agreement of the deans of the medical schools of Adelaide, Melbourne and Sydney, that a tropical institute was needed. In fact, Professor Anderson Stuart, the Dean of the Sydney University Medical School, had had similar ideas for some time to site an institute in Sydney. However, the bishop favoured Townsville and advanced the following arguments to support his choice:

(a) Townsville is one of the largest cities within the Australian Tropics.

(b) It is within the acknowledged area of tropical diseases.

(c) It is a port of considerable importance, and as such, is in constant touch with the Northern parts of Queensland, the Northern Territory of South Australia, Papua, and the South of the Commonwealth. It is also the terminus of the Great Northern Railway System, stretching westwards towards Winton and Cloncurry. It is therefore well situated as a centre from which the Medical Officer in charge of the Institute can carry on his research operations, and can have a quick method of communicating with the Medical Schools in the South.

(d) It possesses exceptionally large and commodious Hospital buildings.

(e) The Townsville Hospital is subsidized by the Queensland Government as a 'Base Hospital' and as such it constantly receives serious cases of disease from all parts of tropical Queensland, from Papua, and from the adjacent islands.

With such a small institute it was envisaged that most of the investigational work would be done on specimens sent to the laboratories of the medical schools in the south. Professor Anderson Stuart never favoured the idea of using Townsville, but did defer to the bishop, so that agreement was reached to site the institute in Townsville—at that time having a population of 10,000 people. The professor threw himself wholeheartedly into the establishment of the institute, but never changed his belief that it would have been better placed in Sydney with a large port dealing with tropical countries. He pointed out that the British institutes flourished even though they were much further away from the tropics than was Sydney. The Townsville group thought that, for obvious reasons, a tropical institute should be situated in the tropics, and in May, 1907, a deputation from the Townsville Chamber of Commerce and Townsville Hospital Committee waited upon the Governor General, Lord Northcote, whilst he was in Townsville. The spokesmen were Dr T. G. Ross, Medical Superintendent of the Hospital and one of the bishop's most ardent supporters, and the bishop himself. Dr Ross mentioned the general prevalence of malaria, hookworm, plague, leprosy, and "Barcoo rot", and of eye disease in Cloncurry. The bishop mentioned that the hospital committee had made certain concessions, and this doubtless referred to the provision of a small building to house the institute, and also the making available of ten female and ten male beds for the accommodation of patients with tropical diseases.[11]

At this point, with the institute well on the stocks, we may divert for a time to another man who was as remarkable in his way as was Sir Patrick Manson, so far as ever-widening spheres of influence were concerned. He was Sir Charles Martin, an Englishman with a marked influence on Australians. He was more or less a medical patron saint of Australia from about 1890 to the time of his death in 1955. He was held in great esteem and affection, and if any problems arose C. J. Martin was always the man first consulted about them. When he returned to England as Chief of the Lister Institute in London in 1903, he became a sort of honorary Australian. At his London institute he had a warm spot for Australians and of the *dramatis personae* in this lecture; many worked with him at one time or another, and these included Dr R. A. O'Brien, Dr J. H. L. Cumpston, Professor W. J. Young and Professor H. Priestley.

Sir Charles Martin arrived in Sydney in 1890 as a demonstrator in the university department of physiology, where he spent six or seven years, and then became Lecturer in Physiology at the University of Melbourne. After four years he succeeded to the professorial chair in the subject, and probably would have remained except for the poor treatment he received from the university. There was a shortage of money at the time due to the defalcations of a trusted officer, and also a State-wide depression as a result of drought. The electricity supply was cut off as an economy measure, so Martin built a water-powered centrifuge which was beautifully efficient. He had a tremendous facility for designing and making apparatus. R. A. O'Brien was one of his students in Melbourne as well as working with him later at the Lister Institute. Many Australians must have passed through his hands as students, as he later returned to Australia in 1931 to become a member of the CSIRO and also Professor of Biochemistry and General Physiology at the University of Adelaide.[12]

Sir Charles Martin had an unusual attitude to the tropics for the time; he was positively in favour of warm climates. The following quotation has been attributed to him:[12] "Man is a tropical animal and the physiological processes of his adaptation are more suited to warm than to cold climates." A variant of this goes: "Man is a tropical animal and his physiological mechanism of homoeostasis of body temperature is essentially adapted to tropical rather than cold climates." Certainly, Sir Charles Martin did write:[13] "Man in his nakedness and the wide area over which he can sweat, is the best adapted of all creatures to withstand high external temperatures, and, coincident with his loss of hair, his increasing intelligence has allowed him to extend the downward range of external temperature at which he could remain homoeothermic by providing himself with adjustable insulation." There is another quotation from Martin: "the correct dress for the tropics is a pair of thongs and a parasol."[14] Is there any wonder that students of his such as R. A. O'Brien ended up in Cairns? Perhaps he was responsible for the steady stream of Melbourne graduates who came to Queensland; perhaps even Jackson

himself was influenced by him. Martin's attitude thus constituted the third attitude of the triad. Which of the three was correct? The tropics are harmful; the tropics are the same as anywhere else; the tropics are beneficial so far as the white man is concerned.

When the time came to appoint a director of the new institute, Sir Charles Martin of the Lister Institute was of course involved, as he was in most things Australian. He acted on behalf of the University of Sydney which was chosen to make the appointment. The selection committee comprised representatives of the Royal Society, the London School of Tropical Medicine, and the Liverpool School of Tropical Medicine.

On August 6, 1909, Martin wrote to Dr Anton Breinl, of the Liverpool School of Tropical Medicine, telling him that he had been appointed to the position of Director of the Australian Institute of Tropical Medicine, with the one proviso that, as he had been infected with *Trypanosoma gambiense* two years previously, any recurrence of this infection would make the appointment null and void.[9] Martin remarked that the committee had secured a "very strong man for its first Director". Dr Anton Breinl was at that time Director of the Runcorn Research Laboratories, and Assistant Lecturer at the Liverpool School of Tropical Medicine.

(To be continued)

BOOK REVIEWS

A Manual of Examination of the Newborn. Yash Paul, M.B., B.S., D.C.H.; 1976. London: William Heinemann Medical Books Ltd. 8½" × 5½", pp. 92, with illustrations. Price: £2.25.

THIS 80 page soft-cover book deals systematically with the clinical examination of the newborn. Dr Paul tries to stress the importance of prognostically relevant features, such as tonic erythema as a benign self-limiting disorder as compared with the permanently disfiguring port-wine stain. There are chapters on the major systems and one on gestational assessment.

It is unclear to me to whom this text is directed. The contents are grossly unbalanced from a clinically significant standpoint. I would have expected some special mention of the examination in suspected neonatal sepsis; some guidelines as to the technique of examining the precariously-ill preterm infant (thermal protection, minimal handling, protection of ambient oxygen enrichment). We get one and a half lines on blood pressure, six lines on the "Marcus Gunn" phenomenon and an incredible forty-three lines on the rarities—incontinentia pigmenti, epidermolysis bullosa, erythema multiforme (in the newborn?) and mast cell disease. There is no description of oral or perianal thrush.

I cannot recommend this book.

P. J. PEMBERTON.

Management of the Unconscious Patient. By William R. Darmody, M.D.; *Current Concepts in Emergency Medicine, Volume 1;* 1976. Saint Louis: The C. V. Mosby Company; Melbourne: Ramsay Surgical Limited. 9½" × 6¼", pp. 128, with illustrations. Price: $10.95.

THIS monograph in the first of a series being published by the C. V. Mosby Company under the general title, *Current Contents in Emergency Medicine.* The series is entended to provide an in depth cover of the subject for all those engaged in the management of the emergency in question, medical, nursing and technical.

While I would not argue with the contents from a clinical point of view, and indeed there is much factual information in a small volume, I do not think it lives up to the objectives set out. In a volume aimed at nursing and trained ambulance personnel (EMTs) among others, I would have preferred to see more space devoted to the simple, on-the-spot management of the unconscious patient. This vital topic is very briefly dealt with and would have been enhanced by a more planned, more detailed and better illustrated approach. As it is, many important subjects are glossed over and some are mentioned which should only be mentioned if they are to be amplified, or if their indications and pitfalls are to be carefully explained. An example is the oesophageal airway (presumably oesophageal obturator airway) which is listed as a means of artificial ventilation.

The book has a distinct neurosurgical bias, dictated no doubt by the principal author. Most of its pages are devoted to clinical and investigatory assessment designed to establish neurosurgical diagnosis or otherwise. This is well done. Non-surgical causes of coma are dealt with in two brief chapters barely covering the subject of drug overdosage and metabolic derangements. In this section many disease states are touched on, but few are well covered. The result is a lack of balance and cohesion in the whole volume which could have been avoided by a more systematic approach. A further factor detracting from the book is the style of writing. Especially in the earlier chapters, this tends to be disjointed and even obscure. In a book of this type, clear, simple English is most important to get a simple message across to a wide audience.

It is no doubt laudable to put out a series of monographs on important facets of emergency medicine. It will, however, only fulfil its purpose and justify the cost involved if each volume is to be a vade-mecum of the facet concerned. I do not believe the present volume comes up to this expectation.

JOHN E. O'DONNELL.

Urology in Primary Care. By Stephen N. Rous, M.D., M.S. (Urology), F.A.C.S.; 1976. Saint Louis: The C. V. Mosby Company; Melbourne: Ramsay Surgical Limited. 9¾" × 6¼", pp. 296, with illustrations. Price: $13.55.

A LITTLE WHILE ago Michigan State University's College of Human Medicine determined, among other objectives, "the educational objectives in urology that would be required of every medical student in the school". Dr Rous states in his preface that this book has been written because of these objectives, and that he has tried to focus on "core" knowledge in urology "that will be as applicable to the primary care physician as it is to the graduating medical student".

In this endeavour he has succeeded. Dr Rous has written an excellent textbook of urology in primary care, or as we in this country might say, urology in general practice. The book contains a practical approach to such problems as infection and inflammation in the urinary tract, though, a little surprisingly, no reference is made to papillary necrosis. It deals with Gram-negative sepsis and shock, and the use of antibiotics. There are chapters on malignant neoplasms, benign prostatic hyperplasia, stone disease, trauma, intrascrotal problems, cutaneous lesions of the external genitalia, enuresis, sexual problems, haematuria and end-stage renal disease, all of which emphasize conditions which may present to the family doctor or to the doctor of first contact. The author includes a chapter on urinary tract diagnostic procedures available, but has avoided the pitfall of trying to cover specialized evaluations and therapeutics which are in the province of the urological specialist. The final chapter is one of assessment and evaluation of the knowledge gained from the book, and includes a series of exercises with which the reader may test himself.

The book has a flexible cover, but is strongly made. The print is clear, and the text is interesting to read. Typographical errors are few. American spelling prevails, but it is not obtrusive. An adverse criticism concerns the reproduction of X-ray films and photographs. To print photographs of skin lesions in black and white is simply not