EMPIRE RHEUMATISM COUNCIL

TWENTY-FIRST ANNUAL REPORT

The 21st Annual Report of the Empire Rheumatism Council was presented by the Chairman, Dr. W. S. C. Copeman, at the Annual General Meeting, held on May 7, 1958, at the Ciba Foundation, London, W.1. He congratulated Lord Evans of Merthyr Tydfil, a member of the Advisory Panel, on his elevation to the Peerage, and the Vice-Chairman, Professor Sir Charles Dodds, on his election as Vice-President of the Royal Society, a very rare honour in the medical profession. He announced that the executive committee had regrettfully accepted the resignation of Mr. A. G. Timbrell Fisher who was a founder member of the Council and had served as trustee and as a member of the executive committee for many years, and that all members of the Council regretted the retirement after 10 years of the general secretary, Mr. R. Victor Howell, M.B.E.

FUNDS

When the 10-year programme of intensified research was announced in 1956 it was coupled with an appeal, sponsored by a committee of leading industrialists under the chairmanship of Lord Astor of Hever, for the sum of £250,000. The Council was most grateful to Lord Astor and his colleagues for their support. £175,000 was still needed, but the Council's activities had been much extended with the funds already received, as was shown by the endowment of a second chair of rheumatology, and by the reports* from the Research Fellows and from the Director of the Mobile Field Unit.

RESEARCH

Fellowships.—Dr. J. K. Norymberski (Sheffield Centre for the Investigation and Treatment of the Rheumatic Diseases) had been engaged for the last 5 years in the field of biochemistry in relation to the rheumatic diseases. Since 1949, when it was found that cortisone and corticotropin had a profound suppressive effect on the symptoms and signs of rheumatoid arthritis, the relationship and function of the adrenal gland to this disease had been of the greatest importance in the research field. This gland was a highly complex organ and produced a large number of substances, which because of their chemical structure, were called steroids.

For a better understanding of the part played by cortisone in the suppression of rheumatoid arthritis, these steroid substances should be isolated and recognized, and if possible, measured. Dr. Norymberski, by his work in this field, had brought renown to himself and to the Council. In 1953 he developed a means of measuring a large group of these substances in bulk. This opened the way to further research, and he was able to improve and simplify his method so that it became possible to identify certain groups more accurately. This procedure could be carried out, not only in research laboratories, but also in certain hospitals, and in this way, for the first time, the study of patients could be linked with biochemical laboratory research in the rheumatic field. In 1955, this work progressed further and sub-groups of steroids were identified and analysed for the first time.

A step forward in understanding why rheumatoid arthritis often disappeared temporarily during pregnancy was the result of work from Dr. Norymberski's research laboratory. It was found that during pregnancy there was a gradual increase of a particular chemical substance and an even more pronounced increase of a small sub-group which had only recently been identified. These methods of research were reported at the International Meeting of Biochemists in Brussels. In 1956 it was established that the increase of this important and interesting chemical during pregnancy was due, not to an additional out-put by the adrenal gland, but to the fact that it was destroyed more slowly in the body under these conditions.

Already this research was being put to practical use and it was now possible to measure chemically the effect of certain hormone remedies in cases of rheumatoid arthritis. This would lead to a more accurate regime of dosage, with the possible elimination of hitherto unavoidable adverse effects, and to a better understanding of the disease.

Miss I. H. M. Muir had been working under the direction of Prof. Sir George Pickering, at St. Mary's Hospital, London, on a different aspect of the rheumatic problem, namely, the physical properties of the supporting tissues of the body. The so-called "soft-tissues", made up of muscles, ligaments, fat and other connective-tissue structures, were frequently involved in different types of rheumatic disease, and Miss Muir had been studying some of the chemical reactions which take

* These are printed in full on pp. 34-46 of the Annual Report and may be obtained from the Secretary, Mr. M. G. Andrews, Faraday House, 8-10 Charing Cross Road, London. W.C.2 (Telephone: COVent Garden 0871).
place in connective tissue, both in the normal state and in disease.

Work with atomically-labelled substances whose progress could be followed by a Geiger counter had shown that the rate of destruction of certain elements was accelerated in disease. It was first necessary to work out a method of identifying these substances more accurately, and particular study was made of a chemical, chondroitin sulphate, an integral part of cartilage and other connective tissues.

It was extremely important to isolate this chemical in a pure state, and in 1956 this was achieved.

The discovery that small changes in its chemical structure of this substance resulted in large changes in its physical properties, was a major step forward. Miss Muir had discovered a new type of chemical substance in cartilage which had not previously been identified.

The Council had continued to finance the Chair of Rheumatology at Manchester University and had established a further Research Professorship at London University.

An additional Research Fellow, Dr. Alun Lloyd, was appointed at the University of Wales, University College, Cardiff, to continue studies on chondroitin sulphate.

Dr. Madeline Keech, working on connective tissue under the direction of Professor Tunbridge at the General Infirmary, Leeds, had been studying the action of physical agents and enzymes upon the structure of normal collagen, on the breakdown products of collagen, and on collagen from cases of localized scleroderma.

The Council had also pursued its policy of making grants for promising lines of research, including work on cervical spondylitis by Dr. Marcia Wilkinson under the direction of Sir Russell Brain at the London Hospital, on plasma by Dr. V. Eisen under Professor C. A. Keene at the Middlesex Hospital Medical School, and on the effects of mucopolysaccharides by Dr. P. Fourman at the University of Wales, Cardiff.

In addition, research on steroids by Drs. Robertson and Chapman at the West London Hospital and on plasma by Dr. P. Abelson under Professor E. G. L. Bywaters at Hammersmith Hospital, London, was continued. The Council had supported Professor E. D. Wittkower at Montreal University, Canada, in his research on the psychological aspects of rheumatoid arthritis, and Dr. E. R. Hargreaves in conducting a very useful survey of the prevalence of rheumatoid arthritis in West Cornwall.

Fellowships granted from the Geigy Travelling Fund, had allowed those training in the rheumatic field to gain specialized experience abroad. Dr. Gerald Loewi spent a year in the United States working in the laboratory of Dr. Karl Meyer, College of Physicians and Surgeons, New York, and Dr. L. E. Glynn made a 2-month tour of the United States and Canada and visited many centres of research. Fellowships had been granted to Mr. W. D. Coltart for a short visit to the United States in May, 1958, and to Dr. E. Hess for work under Dr. Morris Ziff at the University of Texas Southwestern Medical School, beginning in September, 1958.

Clinical Trials.—Some of the Council's most valuable work was carried out through controlled trials of certain drugs. Such a trial, comparing the effects of cortisone and aspirin, had been undertaken by nine centres throughout the country; the conclusions were that groups of patients treated either with cortisone or with aspirin showed improvement over the 3 years, but that little ultimate objective difference could be detected between the two groups. A further trial of gold therapy in rheumatoid arthritis involving 27 centres was under way.

Mobile Field Unit.—This Unit, the only one of its kind in the world, had had a very active year pursuing investigations into geographical, genetic, and industrial factors in relation to various forms of arthritis. With the help of borrowed equipment and temporary staff, several useful surveys had been completed and some interesting results were reported by the director, Dr. J. S. Lawrence.

For geographical studies, standardization of diagnostic criteria was essential. A special committee of the American Rheumatism Association had worked out some valuable clinical criteria, and the Field Unit had developed radiological and serological criteria. Important studies on the standardization of changes seen in x-ray photographs of cases of rheumatoid arthritis and osteo-arthritis had been completed by Dr. Lawrence and Prof. Kellgren, the Professor of Rheumatology at Manchester University. At the International Congress on Rheumatism in Toronto, a radiological quiz was organized, to obtain the opinions of sixty physicians from all over the world, so that the standards when published would be truly international.

Dr. Lawrence also took a leading part in an International Conference on Population Studies in Rheumatoid Arthritis held in Bethesda, Maryland, under the auspices of the United States National Institute of Arthritic and Metabolic Diseases and the American Arthritis and Rheumatism Foundation.

The Field Unit had a unique experience of studying random population samples and was becoming an international reference centre, surveys in other countries being increasingly modelled on the technique developed. Dr. Lawrence was also arranging for the interchange of samples of blood and x-ray films taken in other centres so that comparable statistics might soon be available.

Identical surveys were already in progress in Holland, and the Field Unit had been consulted by workers planning surveys in Australia, New Zealand, and Finland. The closest collaboration was also maintained with colleagues in America. Within the United Kingdom there was close co-operation with the Medical Research Council's Pneumoconiosis Research Unit which was conducting medical surveys in South Wales and Scotland. By the end of 1959 the Field Unit surveys in Lancashire and Yorkshire should be complete, and would provide the first accurate figures about the geographical distribution of rheumatoid arthritis and osteo-arthritis.

Two genetic studies had been started during the year. The first was producing some unexpected and interesting results, indicating that there might be two forms of rheumatoid arthritis, one with and the other without hereditary characteristics.
Another result which had emerged from the random sample studies was the definition of rheumatoid arthritis of the cervical spine. It had become clear that rheumatoid disease might be present as a disorder of the cervical spine, producing a clinical picture which had not so far been regarded as rheumatoid. This had extended the clinical concept of rheumatoid disease and provided new information for epidemiological studies.

The second genetic study was of the relatives of patients with multiple osteo-arthritis. Preliminary results showed a definite familial trend in this condition.

Industrial surveys were still in the planning stage, but sickness records were being studied in a number of industries with a view to more elaborate investigations of working populations with exceptionally high or low prevalence of rheumatic complaints.

Equipment.—A centrifuge had been supplied to Dr. H. West at Sheffield.

Orders had been placed by the University of Manchester for two articulated trailers, a traction Unit, and an estate car, which were being bought with a generous grant of up to £13,000 from the Wellcome Trust. The vehicles would be available for the use of the Field Unit for a survey in Wensleydale, starting in April, 1958. One trailer would be equipped for x ray, including a 120 K.V. set and processing unit, the other as a mobile laboratory with clinical examination room and reception room. The estate car would be used for transporting persons to and from the centre and for carrying portable x-ray equipment for use in the home.

Education.

In order to help the medical practitioner, the Council had run annual conferences for consultants, in conjunction with the Postgraduate Medical School of London, Hammersmith. The 1957 Conference took the form of a symposium on rheumatoid arthritis and was fully attended. The Council was very grateful to Professor Sir Francis Fraser, Director of the British Postgraduate Federation, and to Dr. Charles Newman, Dean of the Postgraduate Medical School, who made the course such a great success.

International Congress.—The outstanding event of the year was the IX International Congress on the Rheumatic Diseases organized at Toronto by the Canadian Arthritis and Rheumatism Society under the auspices of the International League against Rheumatism, which was attended by 1,200 physicians and surgeons from 44 countries.

Handbooks.—For patients the Council had continued to publish and distribute to doctors its two handbooks, on *Rheumatoid Arthritis* and *Osteo-Arthritis*. Many thousands of copies were requested each year from practitioners all over the world and the handbooks would therefore continue to be made available as required.

Films.—Through the generosity of Messrs. Lloyd Hamol, a valuable documentary film had been made for the Council, entitled "One Man's Challenge". This told the story of a man's fight to lead a useful life in spite of being almost completely crippled by rheumatoid arthritis. The film had a very successful "premiere" in London, was shown at the Harrogate Festival, and had since been seen by many thousands. It had also been chosen by the British Council to be shown overseas and had been given a special award by the British Medical Association. Copies were available from the Council's headquarters for private or public performance.

The Council had also obtained a copy of the Canadian Arthritis and Rheumatism Society's excellent colour film, "Never Surrender".

Grants.—The Council had continued to support the Heberden Society, which existed for the advancement of the study of the rheumatic diseases. Meetings, lectures, and demonstrations were held regularly throughout the year and the annual Heberden Oration was given by Professor R. E. Tunbridge, Chairman of the Council's Scientific Co-ordinating Committee, on "The Connective Tissue System". The Council also renewed its grants to the Libraries of the British Medical Association and the Royal Society of Medicine for the purchase of books on rheumatism and arthritis. The Council's activities had continued to be reported in the *Annals of the Rheumatic Diseases*, which circulated throughout Europe and North America.

Commonwealth.

The Council continued to keep closely in touch with its affiliated autonomous branches in the Commonwealth.

Canada.—The National President of the Canadian Arthritis and Rheumatism Society, Mr. B. H. Rieger, had written as follows:

The past year has witnessed continued growth in the quantity and quality of the services of the Canadian Arthritis and Rheumatism Society.

Our satisfaction that an increased number of patients has been served (6,784 in 1955, and 7,486 in 1956) and that research and other activities have been extended must be tempered by a realization that last year's rate of growth was less rapid than in previous years. This may be ascribed to the emergence of two major problems: a chronic and nation-wide shortage of professional workers, particularly physiotherapists; and the relatively greater unit cost of services provided in smaller towns and rural areas.

The shortage of physiotherapists appears likely to correct itself in the long run. Particularly commendable are the efforts of the British Columbia and Ontario Divisions in co-operating with other groups and authorities to foster the establishment of additional facilities for the professional training of physiotherapists.

While the extraordinary efforts of many voluntary boards and committees are constantly extending the frontiers of the Society's operations, the movement to prevent or correct disabilities due to arthritis among fellow citizens in small towns and rural areas will not likely develop at a rate comparable with the urgency of the need until this situation is generally recog-
nized by provincial governments, and until the principle of philanthropic responsibility towards their economic hinterlands is generally recognized in the larger cities.

Under the stimulus of the research programme instituted by this Society in 1950, interest in arthritis research has grown rapidly in university departments and laboratories throughout Canada. The time has come to capitalize upon the consequent increases in skilled personnel and facilities through a sharp increase in the level of the Society's support for arthritis research, and it is to be hoped that this will be accompanied by an appropriate increase in the arthritis research activities of the Federal Government.

While I have emphasized several of the problems now facing the Society, I believe that its activities will give solid satisfaction to the many thousands who have contributed so generously of their time, money and effort to make possible the excellent results already achieved.

Australia.—The Australian Rheumatism Council reported an active year, the highlight of which was the attendance of many members of the Council at the International Congress on Rheumatic Diseases at Toronto. The Council had also published a report on the survey of rheumatic complaints which was carried out in Sydney in October, 1956. At the first annual meeting of the newly-formed Australian Rheumatism Association, held in October, 1957, papers conveying the scientific advances reported at the Toronto Congress were read, and the following matters were discussed: a library, a fund for special study, provision of funds for research, and the undertaking of some special project to be co-ordinated in clinics throughout Australia.

A week-end course in rheumatic diseases was held in Sydney under the auspices of the Post-Graduate Committee in Medicine in the University of Sydney, and postgraduate instruction of a similar nature was included in courses arranged in other States by the appropriate Post-Graduate Committees.

In its report the Council recommended that funds for medical research and other work were urgently needed, that the establishment of State Divisions should assist in the campaign against rheumatism, and give the support necessary for the establishment of Arthritis Clinics, and that the provision of surgical aids, drugs, etc., to sufferers lay within the province of the Council.

HEBERDEN SOCIETY

ANNUAL REPORT, 1957

The President recorded with pleasure the honour of a peerage conferred by Her Majesty the Queen on Sir Horace Evans.

The President expressed to Mr. Victor Howell the great regret felt by all members on his retirement. He had been secretary of the society as well as of the Empire Rheumatism Council for over 10 years and during that time had endeared himself to all members. His remarkable charm and ability had enabled him to deal with the most difficult issues unruffled. It was largely due to him that the Council and the Society had thrived so well during his time as Secretary and his genius for organization had proved invaluable. His retirement was universally regretted, but it was hoped that members will continue to see him from time to time. On behalf of the Society the President, amidst great applause from all those present, presented Mr. and Mrs. Howell with an engraved silver salver as a token of their admiration and friendship.

The following new members had been elected:

Ordinary Members: Dr. O. Janus, Dr. B. E. W. Mace, Dr. J. Shulman.

Associate Members: Dr. E. V. Hess, Dr. G. Loewi, Dr. A. J. Popert, Dr. Ifor Williams, Dr. V. Wright.

Overseas Member: Dr. M. Jeffrey.

The following member resigned during the year:

Dr. S. C. Milazzo (from temporary overseas membership).

The total ordinary membership on January 1, 1958, was 100 and the associate membership 18.

Activities

At the invitation of Dr. A. T. Richardson, the first clinical meeting of the year was held at the Royal Free Hospital on February 22, 1957 (Annals, 16, 254). Cases and papers, presented by Dr. A. T. Richardson, Dr. J. H. Jacobs, and Mr. R. L. Markham, and Dr. E. V. Hess (Royal Free Hospital), were followed by demonstrations by Dr. R. P. Hickey, Dr. A. Beardwell, Dr. A. G. Beckett, and Dr. C. Feldman.

A clinical meeting held on October 18, 1957, at the Wellcome Foundation, London (Annals, 16, 516), consisted of a symposium on the IX International Congress of Rheumatic Diseases at Toronto, with contributions from Dr. H. F. West (Sheffield Centre), Dr. F. Dudley Hart (Westminster Hospital), Dr. A. G. S. Hill (Stoke Mandeville Hospital), Dr. R. M. Mason (The