encouraging but far less dramatic than in the animal".

Carl Pearson and his colleagues give an interesting account of the aortic ring lesions in relapsing poly-chondritis.

These papers are all presented in a well-produced and abundantly illustrated book with a clear and well laid-out text. Since many of the communications take the form of a review, it is a pity that, although most of the papers are accompanied by adequate references which should prove useful in themselves, the discussions which followed the papers have been omitted. Many readers will be left with the feeling that this is what they would have most liked to read if they had not been able to attend the Congress. Events in rheumatology are moving faster than the publishers—there was an interval of 2 years between this Conference and its publication, which is much too long.

MICHAEL MASON

Aids and Adaptations. Published by the Occupational Therapy Department of the Canadian Arthritis and Rheumatism Society. 1969. Pp. 55, 41 figs. (\$2.)

This handbook contains the designs of a number of simple aids and adaptations suitable for the arthritic patient, together with instructions as to how they can be assembled. One of its main features is the number of excellent line drawings. A word of caution is needed if books like this are to be used like a sales catalogue by the patients themselves. They are not a substitute for the careful assessment of the needs of each individual, but nonetheless this booklet should prove a useful source of ideas for those doctors and therapists anxious to provide as comprehensive a service as possible for their arthritic patients.

E. B. D. HAMILTON.

HEBERDEN SOCIETY

Heberden Round, 1969

This was conducted by Dr. A. St. J. Dixon at The Royal National Hospital for Rheumatic Diseases, Bath, on June 13, 1969.

At a clinical meeting held on the same day, the following papers were given.

The Bath Waters and their Users. By JOHN COSH (*Royal National Hospital for Rheumatic Diseases*): The hot springs of Bath were used by the Romans to supply a sophisticated system of baths, which are believed to have included facilities for therapy. After the Roman evacuation their bathing establishment was completely destroyed. However, the King's Bath, Cross Bath, and Hot Bath were in use in mediaeval days, and Leland described them in the 16th century. After royal patronage, the city grew in popularity and fashion in the 17th century, and the present hospital was opened in 1742. The records of the early years of the hospital give us an insight into medical thought and practice in the 18th century. It was not until the middle of the 19th century that differentiation between the rheumatic diseases really began.

A brief historical survey was given and hospital records and exhibits were displayed.

Carpal Tunnel Syndrome in Early Rheumatoid Disease. ANNE CHAMBERLAIN and MARY CORBETT (*Arthur Stanley House, Middlesex Hospital, London*): This paper and the discussion thereon will be published in a future issue of the *Annals*.

Styloid Process of the Skull and Rheumatoid Arthritis. By W. H. D. DE HAAS, G. J. VAN SWAEN, and L. HUISINGA (*University of Amsterdam*): An expanded version of this paper with the discussion which took place at this meeting will be published in a future issue of the *Annals*.

Aminoacridine-Precipitable Polyuronide (AAPP) Excretion in Rheumatoid Arthritis: Preliminary Results. By T. BITTER (*Los Angeles, California*): A method was devised for the assay of urinary polyuronides based on the precipitation of these compounds by adding a saturated solution of 9-aminoacridine hydrochloride (Muir, 1958) to a dialysed (Bitter and Ewins, 1963) aliquot of a 72-hour urine collection.

The investigation was carried out in 29 adults with active classical or definite rheumatoid arthritis (RA) (A.R.A. criteria), ten with systemic lupus erythematosus (SLE), sixteen with various other connective tissue diseases, and 31 normal adults of both sexes between the ages of 20 and 72 years.

Six patients with RA and ten with SLE were found to have markedly increased AAPP excretion. The six patients with RA differed from those with normal

AAPP excretion in as much as they showed a number of features of "malignant rheumatoid arthritis" as described by de Sèze (1965). There was no correlation, however, between the abnormally raised AAPP excretion and the rheumatoid factor titre or the erythrocyte sedimentation rate. After a 3-year clinical follow-up these same six patients had shown an unrelenting course of their disease, without notable remission, on conventional treatments such as aspirin to tolerance, low dose steroids (≤ 10 mg. prednisone/day), and/or gold salts.

This test may thus provide a biochemical basis for the clinical diagnosis of "malignant rheumatoid arthritis" and may turn out to be of prognostic value.

Discussion.—DR. J. H. GLYN (*London*): Is it possible to state either from your work, or from previous published work, whether the administration of steroids in large doses will alter the excretion of mucopolysaccharides? It seems possible that some of the therapeutic effects of steroids in connective tissue pathology could be exerted on the ground substance.

DR. BITTER: I am afraid I cannot answer this question, as we investigated all patients (except five with SLE) before any steroid treatment was given.

DR. A. ST. J. DIXON (*Bath*): The trouble with excretion studies is that they reflect both the rate of production of the material you are studying and the rate of renal excretion. I am wondering whether it might not be a renal factor which is at fault, particularly in the lupus case. Have you any data on the clearance of this material?

DR. BITTER: Concerning the effect of renal disease on the rate of excretion of acid mucopolysaccharides, the data in the literature are scanty and contradictory. In amyloid renal disease, however, investigators agree that the excretion of these substances tends to be diminished. None of this series of patients with RA had clinically detectable renal disease, nor did those with various connective tissue diseases, nor did four out of the ten with SLE. Thus the data presented would not tend to suggest that the raised AAPP excretion found in a few patients was necessarily an expression of renal disease. Serum levels were not determined.

DR. W. CARSON DICK (*Glasgow*): First, have you had the opportunity of studying any of the rarer mucopolysaccharidoses; and secondly, have you examined the relationship between your method, older standard methods, and other indices of connective tissue metabolism, for example hydroxyproline excretion rates?

DR. BITTER: Yes. In fact the method had been first worked out to correlate the haematological findings in gargoylism with the urinary excretion of AAPP (Muir, Mittwoch, and Bitter, 1963), and to assess the latter as a diagnostic parameter in Morquio's disease (Bitter, Mittwoch, Muir, and Scott, 1966).

Hydroxyproline determinations were carried out in the (non-dialysed) urine of the patients and controls presented in this communication. However the reproducibility and predictability of this parameter does by no means approach that of the excretion rate of AAPP and Dr. Barbara Ansell kindly suggested that the former should not be included in the present communication.

References

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Chronic Fluoride Intoxication. By T. VISCHER (*Basel, Switzerland*): In some countries, fluorides are used tentatively in the treatment of osteoporosis, metastatic bone disease, and Paget's disease.

Fluoride influences bone formation and may lead, in higher dosage and with intake over longer periods, to fairly characteristic bone changes. Chronic fluoride intoxication seems to be a good model for studying the possible adverse effects of fluoride treatment. Recently we had the opportunity to examine elderly workers from an aluminium plant who had been exposed to cryolith dust for periods up to 50 years. Radiological evidence of chronic fluorosis of the bones was confirmed by histological examination and by determination of fluoride in the bone ash. Some patients complained of vague rheumatic pains, but no specific pattern could be established.

Discussion.—DR. J. H. GLYN (*London*): Are these changes reversible, if the subject is removed from the source of fluoridation?

DR. VISCHER: They are not reversible; I have the impression that they increase with time. This is probably a combination of degenerative changes and fluorotic changes.

PROF. E. G. L. BYWATERS (*Taplow*): I should like to ask if there were any cases in which the changes were confined to the spine, because it must be quite difficult to differentiate these changes from those of senile hyperostotic spondylosis, which is a normal accompaniment of old age. For instance, say in the thoracolumbar spine, was the ligament calcification visible on the right side only as in hyperostotic spondylosis?

DR. VISCHER: There was no difference in side. In addition all patients had more impressive changes peripherally.

A New Syndrome? By M. I. V. JAYSON (*Royal National Hospital for Rheumatic Diseases, Bath*): Conditions such as rheumatoid arthritis, gout, and osteoarthritis are well defined, but many patients present with recurrent aches and pains in whom no objective changes are found and in whom no specific diagnosis can be made.

Three patients with a long history of recurrent arthralgia but without physical signs of arthritis or laboratory