Rheumatology in The Netherlands is undergoing steady growth in both advancement of health care and in arthritis research. For many years the 'killing diseases' received most attention in Dutch medicine. In recent years, however, both from humanitarian and socioeconomic points of view, there has been a growing recognition of the need to stimulate educational and research programmes in the area of chronic disabling diseases.

In this country rheumatology is a subspecialty of internal medicine, which requires a minimum of three years' training in general internal medicine and an additional three years' training in rheumatology before registration. The number of active rheumatologists has been increasing by an average of 5% a year since 1975. At the present time there are 100 registered rheumatologists in practice. Nearly all are active in general or teaching hospitals. With a national population of 14 million the Dutch Society for Rheumatology suggests the need for continued growth for some years.

Last year a special report on arthritis care was presented to parliament. In addition, the Royal Academy of Sciences expressed its intention to stimulate research into rheumatic diseases. Despite these signs of official interest, however, it is the Dutch League against Rheumatism (J van de Rest, director) rather than the state which provides the major support for education, research, and other programmes in various fields of experimental and clinical work.

The Dutch League against Rheumatism is one of the oldest of its kind. It was founded in 1926 by the perseverance of a pioneer in rheumatology, Dr Jan van Breenen. In addition to stimulating research and education in rheumatology, the league furnishes educational materials, provides financial support, and sponsors recreational activities for patients with arthritis. Thanks to its support, which has increased continuously over the last five years to more than seven million guilders in 1989, rheumatology research has been able to maintain high standards.

An example of the growing interest in rheumatology is the recent institution of a fifth chair in rheumatology in the youngest of the Dutch Universities, Maastricht. Maastricht is a beautiful 2000 year old city along the river Meas in the most southern part of the country. This ambitious city, which aims at a role in future European activities, has now had a university for six years. Sjef van der Linden, who began his career in Leiden and who has published on clinical, epidemiological, and genetic aspects of ankylosing spondylitis, was appointed to the position. Sjef has developed research programmes on Lyme disease. He also continues to have a strong interest in clinical and population based epidemiology and in the quality of health care in the field of rheumatology.

Just over 100 km north of Maastricht is the city of Nijmegen, where Leo van de Putte leads an active group. This group has contributed many clinical and experimental studies, including several describing mechanisms of cartilage destruction in antigen induced arthritis. Their research currently focuses on experimental models of chronic arthritis, with particular regard to the role of T cells and bacterial antigens (W B van den Berg). They are also interested in different approaches to immunomodulation in chronic arthritis. They continue to have a strong interest in cartilage, which is reflected in continuing studies of the effects of cytokines and growth factors, as well as non-steroidal anti-inflammatory drugs, on chondrocytes. The Nijmegen group recently reported the beneficial effect of salazopyrine and the superiority of methotrexate over azathioprine in the treatment of rheumatoid arthritis (P C L M van Riel, A M Th Boerbooms). The group collaborates with Nijmegen University's laboratories for biochemistry in the field of nuclear antigens (W J van Venrooy). They reported the association between different antinuclear antibodies and clinical symptoms and new work on the analysis of syndrome specific epitopes. The Nijmegen group has also taken the initiative in developing an Allied Health Professionals Organisation.

Continuing north we arrive at the most northern of our Universities, Grönningen. Here, Professor Jan de Blecourt has been succeeded by Martin van Rijswijk. In the era before HLA Jan de Blecourt contributed much to the epidemiology of ankylosing spondylitis. During the last 15 years before his retirement, Jan de Blecourt was at the forefront of an effort to establish a section dealing with the social and community aspects of rheumatology in EULAR and ILAR. Martin's main interest has been amyloidosis and indices of inflammatory activity, in particular the acute phase proteins. His group is presently investigating the effect of the administration of fish oil on rheumatoid arthritis. They are also studying the clinical and therapeutic aspects of fibromyalgia, and prognostic factors in rheumatoid arthritis. The Grönningen group has recently stimulated interest in hand surgery in rheumatoid arthritis by reporting their favourable results. The clinical significance of the detection of antinuclear and anticytoplasmic antigens is being studied by a group centred on Cees Kallenberg. Martin van Rijswijk is currently the president of the Dutch Society for Rheumatology.

Utrecht, in the centre of the country, is the fourth university with a rheumatology department. This group, until recently headed by Olga Huber-Bruning and now by Hans Bijlsma, is engaged in investigating the effects of activated T cells on human articular cartilage and the mimicry between Mycobacterium tuberculosis
antigen and cartilage proteoglycans (B Wilbrink, W van Eden). Other study interests are bone metabolism and the interaction between sex hormones and chronic inflammation. In collaboration with the psychologist Floor Kraaimaat, the effect of group education on helping patients to cope with the physical and psychosocial aspects of rheumatoid arthritis is being evaluated. Additionally, the role of antiphospholipid antibodies in the pathogenesis of thromboembolic complications is being studied by Ron Derksen. It is expected that within a short time a sixth chair of rheumatology will be established in Utrecht.

Proceeding to the west of the country we arrive at the two oldest centres of rheumatology, Amsterdam and Leiden. Dr Jan van Breemen began a special centre for the care of rheumatic patients in Amsterdam as early as the 1920s. The University of Leiden appointed Hans Goslings as The Netherlands' first professor in rheumatology in 1951. The Amsterdam group is now headed by Jan van der Korst. Jan has contributed to the field of cartilage research and clinical rheumatology. The group in Amsterdam has always had a strong interest in the psychosocial aspects of rheumatoid arthritis. Other clinical research projects are the role of food allergy in rheumatoid arthritis (M van Laar) and development of a diagnostic expert system for arthritis (H Berenlot Moens). Experimental work in this centre concerns the analysis of cartilage proteoglycans and the influence of mechanical lesions on cartilage (R J van de Stadt, G P J van Kampen).

The Leiden centre has contributed to the field of clinical epidemiology, with population studies on ankylosing spondylitis and psoriatic arthritis (S van der Linden, L van Romunde, A Cats). They have also worked on the clinical and pathological aspects of rheumatoid arthritis (K A E Meijers, H M Hazevoet, F Eulderink). T cell function and humoral immune mechanisms in rheumatic diseases are currently being analysed (M R Daha). Projects investigating possibilities for immunomodulation in rheumatoid arthritis are being developed in cooperation with an international group supported by the European Community (R R P de Vries). Clinical research on the side effects of drugs and on extra-articular features of rheumatoid arthritis is in progress (B A C Dijkmans, F C Breedveld).

Professor Jan Vandenbroucke, who worked with Hans Valkenburg, has been appointed as a professor in clinical epidemiology in Leiden. He was responsible for organising the first international congress on oral contraception and rheumatoid arthritis. A protective effect of oral contraceptives for rheumatoid arthritis, as reported in Europe (J P Vandenbroucke, J M W Hazes), was not found in the United States of America. This meeting helped greatly in furthering understanding across the great transatlantic divide. A third generation has recently taken over in Leiden, with the appointment of Ferry Breedveld to succeed Arnold Cats, who has retired.

Not all research on the rheumatic diseases is restricted to university departments of rheumatology. In Rotterdam Tom Swaak, a rheumatologist in a municipal hospital with special interest in rheumatology, is active in studying systemic lupus erythematosus and mediators of inflammation. In Amsterdam several workers at the central laboratory of the Blood Transfusion Service are working on different aspects of inflammation, including interleukins (L A Aarden), complement and proteases (C E Hack), autoantibodies (T E W Feltkamp), and DNA antibodies (R Smeeck). Last, but not least, Professor Hans Valkenburg, epidemiologist, has been prominent in the study of the epidemiology of rheumatic diseases. Heading the department of epidemiology of the University of Rotterdam, he initiated the population based registry of rheumatic diseases in the city of Zoetermeer. Hans officially retired at the beginning of this year but continues to be active in the field.

The cordial atmosphere in Dutch rheumatology provides numerous possibilities for cooperation. Initiatives have been taken to combine efforts in the research on juvenile arthritis and systemic lupus erythematosus. Further collaborative projects have been planned to develop a standardised approach to the treatment of rheumatoid arthritis, so that results of differing treatment regimens may be compared.

Each year four central meetings for the presentation of research and one postgraduate course are organised by the Dutch Society for Rheumatology. The Jan van Breemen day is celebrated with an invited lecture by a renowned speaker. This year Professor Ralph Schumacher delivered the Jan van Breemen oration. A prize is awarded every other year in honour of Professor Hans Goslings for the best thesis in the field of rheumatology. In 1989 that honour was given to Maries van den Broek (Nijmegen) for her contribution to our understanding of streptococcal wall arthritis.

The Dutch Society for Rheumatology plans to initiate discussions over the next several years aimed at reaching consensus on different aspects of the diagnosis and treatment of the rheumatic diseases. It is hoped that these activities will result in further improvement in the quality of care for patients with rheumatic diseases.