The tradition of rheumatological research is long and strong in Finland. There are, however, threats on the horizon. The only professorship of rheumatology, located at the University of Tempere, is coming under pressure as the present professor is about to retire. This is due to the economic recession, which requires the universities to terminate several posts. In Finland, rheumatology is a subspecialty under general internal medicine and, therefore, the universities do not have specific chairs reserved for it. The loss of the chair would also affect the Heinola Rheumatism Foundation, which supports the only professorship of rheumatology, and, therefore, the universities do not have specific chairs reserved for it. The loss of the chair would also affect the Heinola Rheumatism Foundation, currently changing its profile to include more rehabilitation. Considering the fact that in other European countries, e.g. the UK, new professorships in the field are created, Finnish rheumatologists, however, hope for a positive outcome.

Rheumatoid arthritis (RA) is investigated by several groups. In a large multicentre trial involving a number of Finnish rheumatology centres, a study on the value of early aggressive combination therapy of RA is ongoing. The prognosis of the disease is still uncertain, in spite of improvements in therapy. A recent thesis by Riitta Myllykangas-Luosujärvi, from the University of Tempere, confirms that mortality in patients with RA is excessive and caused not only by the disease itself, but also due to cardiovascular disorders, infections and amyloidosis [1, 2]. Ten per cent of the excess deaths appeared to be treatment related. Leena Paimela and co-workers, in Helsinki, recently analysed the predictive value of serum hyaluronate levels, of antikeratin antibodies, type I collagen degradation products, and of HLA DR4 and B27 antigens in early RA. It seems that some of these markers may prove clinically useful, although no conclusions can be reached at present [3].

A role of the intestinal microbial flora, especially of anaerobic bacteria, in the aetiopathogenesis and persistence of RA has again been suggested. Quite recently, Mikko Nenonen, working at the health centre in Jyväskylä, demonstrated in his doctoral thesis that freshly produced juice of wheat sprouts, rich in lactic acid, induced improvement in some patients. In collaboration with our group in Turku, he also demonstrated diet-related changes in the intestinal microbial flora [4]. The changes were most prominent in the patients whose condition improved on the diet.

The observation is in agreement with the findings presented earlier by Kjeldsen-Kragh et al. from Norway, and by Peltonen and co-workers [5–7].

In our own studies on the aetiopathogenesis of RA, we are carrying out a systematic search for the presence of viral genomes at the site of inflammation. So far, no conclusive evidence for the participation of any virus has been obtained. For instance, the presence of DNA from the Epstein–Barr virus and cytomegalovirus can be demonstrated in RA synovial fluid cells, but similar findings were made in patients with reactive arthritis (ReA) [8, 9]. Most recently, we have completed a study on the potential role of measles, mumps and rubella viruses, again with equally negative results. Perhaps the most intriguing finding is that a few patients with parvovirus B19 infection develop a disease indistinguishable from RA [10–12].

Reactive arthritis has remained in the interest of Finnish rheumatologists since the Second World War and the classical study of Paronen [13]. The role of infection as the triggering factor is accepted, but the question of the critical arthritogenic epitopes has remained enigmatic. Mikael Skurnik and co-workers have generated a Yersinia enterocolitica 0:8 strain, devoid of the YadA outer membrane protein, a known virulence factor mediating binding a.o. to collagen. Another strain carries a modified YadA. Experiments with rats demonstrated that the YadA-mediated collagen binding is a factor contributing to the arthritogenicity [14]. Dr Skurnik proposes that presentation of YadA on the surface of polymorphonuclear cells or macrophages leads to binding of those cells to collagen and then to inflammation. The German researchers Probst and Fleischer challenge this view, and obviously further studies are needed [15, 16].

The demonstration by the group of Eric Veys [17], in Gent, that inflammatory bowel lesions are detectable in patients with spondylarthropathy has been confirmed by Marjatta Leirisalo-Repo [18]. She is further analysing in a prospective study whether these lesions predict the development of ankylosing spondylitis (AS). Another question is whether minimal lesions indicate later development of Crohn’s disease.

The value of antibiotic treatment for ReA is currently attracting much attention. Many general practitioners give their patients a brief course of antibiotics, although most evidence is against its usefulness, but
how about a longer treatment? In Finland, two double-blind prospective trials, and at least one in Germany, are under way. Further, experiments addressing this problem with a rat model of *Yersinia*-induced ReA are in progress in Turku. The results obtained so far indicate that antibiotic treatment (or prophylaxis) is effective only when started early enough and with a high dosage. The course of a fully developed disease can no longer be affected by antibiotics. A large international multicentre clinical trial on azithromycin is also about to be started. It may be expected that within a few years therapeutic guidelines can be given.

A few years ago, the diagnosis of Lyme arthritis was rare in Finland. Vigorous research has completely reversed this concept and the disease must now be considered common. In Finland, as elsewhere in the world, the proper diagnosis is still a problem. While some cases still seem to remain unrecognized and not properly treated, false-positive results are also a worry. Matti Viljanen and Simo Nikkari, in Turku, seek to establish proper polymerase chain reaction (PCR) tests and improved techniques for antibody determinations. The issue was also taken up at an international workshop held in Turku in November 1995. The likelihood of *de novo* infection is a reality, as demonstrated by a recent study by Jarmo Oksi [19]. He found that 13% of military recruits training in an endemic area become seropositive for *Borrelia*, in comparison to 3% in a control group training in a non-endemic area.

Views are also changing with regard to the clinical picture of borreliosis. It has been suggested that the three European genospecies, *B. burgdorferi sensu stricto*, *B. garinii* and *B. afzelii*, have different organotropisms, the first being more often linked to arthritis. In Europe, neurological symptoms have been more commonly seen in borreliosis patients, whereas in the USA the arthritic symptoms have been reported in up to 60% of cases. However, arthralgia or myalgia have also been established as part of the clinical picture in Finland. It is also possible that European clinicians have been looking more for neurological symptoms and American colleagues for joint symptoms. At present, the question of organotropism remains unresolved.

Other connective tissue disorders are receiving increased attention. The clinical and immunological features of systemic autoimmune diseases are the main topic of interest for a team in Turku. Recently, the immunogenetic aspects of scleroderma were studied by Marja Hietarinta and co-workers [20]. The HLA studies of a multicast sclerodenna family and of non-familial cases of scleroderma indicate that genetic factors are important in the pathogenesis of scleroderma, and also play a role in the expression of autoantibodies. However, the additional triggering factors still remain unknown.