Discussion.—PROF. I. M. ROITT (*Middlesex Hospital*) suggested that any lymphocyte might become a "killer" if exposed to a non-specific stimulus such as an antigen-antibody complex or aggrated gamma-globulin plus complement.

DR. MACLENNAN agreed that this was a possible explanation. He produced experimental evidence which suggested that complement components were unlikely to play a significant part in his particular experiments.

DR. M. K. JASANI (*Horsham*) asked if the increased cytotoxicity could be due to stimulation of lymphocytes by an antigen present in synovial fluid.

DR. MACLENNAN thought that, in his series of experiments, this possibility could be excluded.

Measurement of Lumbar Spine Motion in Population Studies. By I. F. MACRAE and V. WRIGHT (*Leeds*): In both the Rome (1961) and New York (1967) recommendations for diagnostic criteria in population studies of ankylosing spondylitis, limitation of motion of the lumbar spine is one of the clinical criteria.

In the design state of a family survey to detect the prevalence of ankylosing spondylitis, it became apparent that no suitable method for assessing motion of the lumbar spine was in current use. For this purpose a suitable method should be objective, simple and rapid to perform, and fulfil requirements regarding reliability and sensitivity.

A method based upon measurement of the distraction of marks on the skin overlying the vertebral spines in flexion was devised and evaluated. It was shown that there was a high degree of correlation between the measurement and the flexion of the lumbar spine determined radiographically.

The method was applied in the survey described and the data on lumbar spine motion related to sex, age and radiographic findings were presented.

Discussion.—A number of speakers, whilst agreeing that this method of measuring of movement in the lumbar spine was simple and useful in population studies, considered that it would be of less value in assessing the progress of the individual established case of spondylitis.

Conjugal Prevalence of Rheumatoid Arthritis, Rheumatoid Factor, and Other Autoantibodies in Rheumatoid Arthritis. By T. G. DALAKOS, R. N. M. MACSWEEN, K. WHALEY, W. C. DICK, J. A. BOYLE, M. K. JASANI, E. WILSON, W. W. BUCHANAN, and R. B. GOUDIE (*Glasgow*): The importance of environmental factors in the pathogenesis of rheumatoid arthritis was assessed by studying the conjugal prevalence of rheumatoid arthritis and rheumatoid and antinuclear factors and a number of organ-specific autoantibodies including antithyroglobulin, antithyroid microsomes and gastric parietal cell autoantibodies in 447 spouses of patients with rheumatoid arthritis. Rheumatoid arthritis occurred no more frequently in the spouses than would be expected on the basis of the prevalence of the disease in Great Britain, but rheumatoid factor was found increased in both husbands and wives ($P < 0.02$) compared with controls. Antinuclear factor ($P < 0.05$) and antithyroglobulin autoantibodies ($P < 0.01$) were found in controls. No relationship was found between the presence of these antibodies and the the duration of marital contact or between their presence in the probands and their occurrence in the spouses.

Discussion.—DR. J. S. LAWRENCE (*Manchester*) pointed out that the excessive incidence of rheumatoid factor in female spouses was at variance with the findings of other workers, and suggested that it might be explained on the basis of the particular test used.

PROF. J. H. KELLGREN (*Manchester*) suggested that some of the results could be explained by the use of tests at a high level of sensitivity.

DR. DALAKOS replied that in their study they had compared two populations at the same standard.

DR. A. S. RUSSELL (*Taplow*) suggested that an alternative explanation for the apparently anomalous results in the study was that the statistical significances presented might have been overemphasized.

Arthroscopy—An Evaluation of its Use in Clinical Conditions. By M. I. JAYSON and A. ST.J. DIXON (*Bath*): This paper has been published in the *Annals* (1968), **27,** 503.

Hypogammaglobulinaemia and Arthritis. By J. S. LAWRENCE, J. M. BREMNER, and B. M. ANSELL (*Taplow*): A group of patients with hypogammaglobulinaemia was examined clinically and by *x* rays of the hands, feet, neck, and pelvis. The high prevalence of arthritis reported by others was not confirmed, but young male patients had significantly more polyarthritis and synovitis of the knees than males of the same age distribution in the population. This did not appear to be due to the gammaglobulin with which they were being treated. It was found mainly in those in whom IgA and IgM levels were deficient in addition to IgG.

Discussion.—DR. LAWRENCE, in reply to a question by PROF. E. G. L. BYWATERS (*Taplow*) stated that the steatorrheoa observed was of the malabsorption type. Jejunal biopsies performed in some of the patients showed no striking changes.

DR. V. WRIGHT (*Leeds*) asked if Dr. Lawrence thought it was possible that the arthritis observed in these patients might be due to persistence of soluble antigen-antibody complexes in which gross excess of antigen was present.

DR. LAWRENCE felt that if this were the case he would expect the patients with arthritis to show the syndrome of serum sickness.

PROF. K. W. WALTON (*Birmingham*), drawing a possible analogy with Whipple's disease, asked if it were possible that the patients developing arthritis were failing to produce antibody in the wall of a gut and therefore lacked the defence mechanism to prevent access of organisms from this source.

Articular Scan in Patients with Rheumatoid Arthritis: A Possible Method of Quantitating Joint Inflammation using Radio-Technetium. By K. WHALEY, A. I. PACK, J. A. BOYLE, W. C. DICK, W. W. DOWNIE, W. W.