during this time became assistant editor of the *Journal of Pathology and Bacteriology*.

He returned to Sheffield to take the Joseph Hunter Chair of Pathology in 1959 and thereafter played an increasing part in University affairs. He was a member of the planning committee of the new Sheffield teaching hospital and medical school, had recently joined the Regional Hospital Board, and was Public Orator in the University.

His premature death is a great loss to rheumatism research. Douglas Collins had for many years been unwilling to accept the explanation that osteoarthritis was simply the inevitable result of growing old, and he was investigating the underlying pathology of this condition with financial aid from the Arthritis and Rheumatism Council.

He had bent the technical resources of his department, histochemical, radiochemical, radiological, microscopical, and experimental, towards research into the pathology of bone and joint disease. By means of isotope techniques he was studying the early changes in osteo-arthritis; his investigations into the results of direct injury to joint cartilage showed that there was an increased activity of the cells forming the deeper layers of cartilage and that

this was followed by an increase in the output of mucopolysaccharides. Through this work, which was reported on a number of occasions in this Journal, it became clear that the first change leading to osteo-arthritis occurs in the deeper layer of the cartilage or bone and not on the surface as had been supposed. Investigations into the blood supply have revealed that change in the cartilage depends on the vascular activity of the underlying bone.

Through all this work he had built up an excellent research team who must feel keenly the untimely loss of their leader.

His international reputation as an authority on bone and joint disease brought much material to his laboratory and many invitations from overseas; in spite of a serious illness in 1959 he recently undertook a lecture tour in India for the World Health Organization.

Douglas Collins was an accomplished musician and one of the most delightful personalities one could meet. His great charm and infectious cheerfulness earned him a host of friends in many quarters; we offer our sympathy and regrets to his widow and to his son and daughter.

OSWALD SAVAGE.

JOSEPH JAY BUNIM, 1906-1964

On July 8, 1964, Dr. J. J. Bunim died suddenly from a heart attack. His loss will be keenly felt by all rheumatologists in Britain and throughout the world, in a personal as well as in a professional and scientific sense.

Joseph Jay Bunim was born in Wlozin, Russia, in 1906. In early childhood he emigrated with his parents to the United States and became a United States citizen in 1914. His father was a scholar with high principles, his mother a woman of great warmth and capability, and Joe had the virtues of both his parents refined and tempered in the hard school of New York Medicine.

He graduated B.Sc. from the College of the City of New York in 1926 and received his doctorate of medicine in 1930 and a doctorate of science in 1938 from the New York University School of Medicine. He started his medical career with two years of internship and assistant residency on the Third (New York University) Medical Division of Bellevue

Hospital. He was then awarded a research fellowship to spend a year at Yale where work concerned with haemolytic streptococci and rheumatic fever awakened his interest in rheumatic diseases. When he returned to Bellevue to complete his residency he naturally allied himself with the laboratory group which had recently been established at New York Medical School to study rheumatic fever. Subsequently the interests of the group and of Bunim himself widened to embrace the whole field of rheumatic diseases. He served as head of the arthritis clinic of the Third Medical Division of Bellevue Hospital from 1939 to 1952 and was intimately associated with what became the Rheumatic Diseases Study Group after 1945. In the New York University School of Medicine he became associate professor in 1949, and in addition to these important clinical, scientific, and teaching responsibilities he developed a most successful practice in cardiology and rheumatology. All this he left in

1952 to dedicate himself to medical science and public service as the first clinical director of the National Institute of Arthritis and Metabolic Diseases at the National Institutes of Health in Bethesda, Maryland, where he also became associate professor of medicine at the Johns Hopkins Medical School. By the brilliant way in which he discharged these responsibilities and through his additional work for the American Rheumatism Association, of which he became president in 1958, and through the unstinting service he gave to many other organizations he had a profound influence on the development of American rheumatology.

Dr. Bunim had a genius for unobtrusive leadership, a keen critical sense, and an endless fund of energy which enabled him to assimilate vast amounts of information. These qualities made him a superb teacher and the ideal guide for the young investigator. His astute criticisms were always given with kindness and humility which made them the more stimulating

and acceptable to senior as well as junior colleagues, and there must be few workers in the field of rheumatology who have not received benefit from his help and guidance.

At a time when medicine, especially in America, was moving increasingly into the laboratory, the patient remained his primary interest, as is shown by such personal contributions as the demonstration of vascular lesions in rheumatoid arthritis and the introduction of synthetic corticosteroids for the treatment of this disease, the adaptation of bentonite flocculation for estimating rheumatoid factor, and the recognition of the serological abnormalities of Sjögren's disease—a contribution which is especially remembered by British rheumatologists since it formed the subject of his Heberden Oration in 1960. He also contributed greatly to the organization of epidemiological studies in rheumatic diseases and was responsible for initiating the series of international symposia on this subject, the third of which he was actively planning at the time of his death. Of his numerous editorial activities, the founding and editing of the *Bulletin on Rheumatic Diseases* which has been so helpful to rheumatologists throughout the world is surely outstanding. Because of his knowledge and experience and his ability as a speaker he was an indispensable member of many international conferences, and only a few months before his death he visited the U.S.S.R. under the auspices of the United States Public Health Service as a member of a team of rheumatologists.

He had deep religious convictions and strong family ties which contributed to the sense of commitment and integrity which so impressed all who worked with him.

As the complete physician, a best friend, and a most inspiring teacher he will be sadly missed.

Those who knew him as either physician or colleague will, I am sure, wish his wife and their children to know that he was widely regarded as one of the world's fine citizens of which there are all too few.

J. H. KELLGREN.