with the emotions, the new one with intelligence. Fear and rage he shares with all, judgment and foresight are almost uniquely his. It would probably be impossible, surely unwise, to eliminate the selfish elements of self-preservation from man's make-up; but it may be possible and is surely desirable to control and guide them. Knowledge is cumulative in time, generation building on generation, while emotion is not. Perhaps cerebral control is increasing. Modern psychiatry is finding the hidden springs of behavior and modifying their flow. Men will probably always want more than their share, but perhaps it will not always be of the same things. The mass desideratum now is money, yet large groups of men have completely renounced this end for another; for example, fame. As man learns more of himself, his neural mechanisms, the hormones that modify them, the drives they generate, and the personal and social consequences of his acts, much control will undoubtedly be possible. And this knowledge will be deposited only by the stream of science. I am perhaps not overly guileless in believing that reason will sufficiently dominate emotion to keep a functioning civilization from perishing. Some emotion is needed, but the future of society is a direct challenge to the cerebrum of man and to its tool for rational advance—pure science.

OBITUARY

ALBERT SHERMAN

DR. ALBERT SHERMAN, research associate and Stephen S. Wilder fellow of the Basic Science Research Laboratory at the University of Cincinnati, died suddenly on July 1, following a period of illness. He was a brilliant theoretical chemist and probably the leading authority on the practical application of activation energy calculations to chemical reaction rates. His death at the age of 31 is a handicap to the development of this new and important branch of chemical kinetics. He has written twenty articles in the field of mathematical chemistry published in several journals, but chiefly in the *Journal of Chemical Physics*.

Born and raised in San Francisco, Dr. Sherman was graduated from the chemistry department of the University of California and went to Princeton University, where he received the Ph.D. degree in 1933. Here he came under the stimulating influence of Professor Eyring and Professor Taylor, and in this period published several articles in the rapidly developing application of quantum mechanical calculations to chemical problems such as adsorption, and deuterium reactions. He received a National Research Council fellowship and went to the University of Wisconsin, where he remained as fellow and research associate with Professor Daniels until 1937, except for a second appointment to a National Research Council fellowship to study in England with Professor Lennard-Jones.

Of this period of his scientific work, three outstanding papers are typical—a long review article with Professor J. H. Van Vleck on the "Quantum Theory of Valence," an article on the "Addition of Halogens to the Double Bond" and an article with Moelwynn-Hughes on the various types of interaction between solvent and solute and their influence on reaction rates.

A year ago Dr. Sherman was appointed to an interesting position on the staff of the Basic Science Research Laboratory at the University of Cincinnati. He had the opportunity of giving advanced courses in quantum mechanics, valence and thermodynamics, directing research and cooperating with the industries around Cincinnati. At the Symposium on Recent Advances in Chemical Physics of the American Association for the Advancement of Science, Dr. Sherman gave a paper on the "Calculation of Activation Energies," and in a forthcoming book he has contributed a chapter on the "Theoretical Basis of Halogenation Reactions."

Not only in his publications has Dr. Sherman helped to advance chemistry but also in the help which he was constantly giving to other investigators. He was liked and respected by all the graduate students with whom he came in contact at Cincinnati, at Wisconsin and at Princeton. His advice was eagerly sought by many in getting the most possible out of a series of experimental measurements, and both in formal lectures and informal conferences he stimulated others to more mathematical and more valuable treatment of chemical problems.

Dr. Sherman is survived by his parents and a sister in San Francisco. He is survived by Dr. Jack Sherman, an identical twin brother, who is also a prominent mathematical chemist, located at the laboratory of the Universal Oil Products Company.

FARRINGTON DANIELS

ELLIS STANLEY JOSEPH

THE death of Ellis S. Joseph from a heart attack on September 16 ended the career of one of the world's foremost animal collectors. Mr. Joseph was 66 years old, and had been in virtual retirement for the past five years due to ill health.

Born in Bombay, India, of English parents, he was educated in an English school in Shanghai. His father, said to have been a wheat farmer and horse owner in India, wanted the son to become a doctor. But the lure of travel and adventure was too strong, and when only eighteen the young Joseph began making expeditions