workers. Domagk was also the first to direct attention to the important antiseptic properties of the so-called 'inverted soaps'.

Domagk, whose interest in cancer dates back to 1928, is now mainly interested in the possibilities of chemotherapy of cancer. As a result of his recent work on animals, some compounds of promise are at present undergoing clinical trial. For the sake of mankind it is to be hoped that the success he has had in his other fields of endeavour will not fail him in this quest.

Prof. J. H. Oort

FEW astronomers have made such important contributions to the study of the structure and dynamics of the galactic system as Prof. J. H. Oort, who was recently elected to foreign membership of the Royal Society. He was among the first to recognize the importance of the high-velocity stars, interpreting the zone of avoidance of their motions in terms of the velocity of escape from the galactic system. These studies enabled him to develop Lindblad's theory of galactic rotation into the form in which it is used to-day. He developed formulæ for the effect of galactic rotation on the radial velocities and proper motions of the stars, and analysed the observational material to obtain estimates of the angular velocity and mass of the Galaxy. Another major investigation was concerned with the motions of the stars perpendicular to the galactic plane. Oort obtained a relation between the velocities of the stars and the gravitational acceleration of the Galaxy, and with the aid of models of the Galaxy he determined the density of matter in the solar neighbourhood. Since the Second World War, Oort's most important work has been his inspiration and leadership of the team of Dutch astronomers who have been investigating galactic structure with the aid of 21-cm. hydrogen radiation. It is no exaggeration to say that, under Oort's direction, the Leyden Observatory has become one of the world's leading astronomical institutions, the work of which has had, and continues to have, a profound influence on the progress of astronomy.

Prof. A. H. T. Theorell

PROF. HUGO THEORELL was also recently elected a foreign member of the Royal Society. Theorell's main work at the Nobel Medical Institute, Stockholm, has been concerned with the oxidizing enzymes, especially flavoproteins, hæmoproteins and dehydrogenases, in all of which fields he has made important contributions to knowledge during a period of more than twenty-five years. He first purified the yeast flavoprotein which had been discovered by Warburg and Christian, and later he isolated it in crystalline form. He investigated particularly the nature of the union between the flavin prosthetic group and the protein part, and showed the importance of the phosphate group in this. He also was the first to crystallize several hæmoproteins, including myoglobin and the peroxidases of milk and horseradish, and studied them in detail by physical methods, developing especially the use of measurements of magnetic susceptibility for the examination of the state of the iron atom in hæmoproteins. Theorell also investigated in great detail the structure of highly purified cytochrome *c*, established that the connexion of the porphyrin with the protein was through sulphur groups, and was ultimately able to construct a model of the structure of the part of the molecule adjoining the prosthetic group. He also carried out an important detailed study of the kinetics of the alcohol dehydrogenase system, using elegant methods depending on measurements of ultra-violet absorption and fluorescence. This led to interpretations of the apparent Michaelis constants of the various reactants in terms of the rate constants of the separate steps of the catalytic process and threw a good deal of light on the mechanism of the catalytic action of the enzyme.

Institution of Mining and Metallurgy : Awards

THE Institution of Mining and Metallurgy has announced the following awards : The Gold Medal of the Institution for 1958 to Dr. A. J. Orenstein, for long and distinguished service in the cause of the health and welfare of the workers in the mining industry, with particular reference to the Witwatersrand ; honorary membership of the Institution has been conferred on Mr. W. A. C. Newman, in recognition of his services both to the Institution (of which he is a past-president) and to metallurgical education ; on Brig. R. S. G. Stokes, past-president, in recognition of his services to the mining industry particularly in South Africa ; and on Sir Alexander Fleck, in recognition of his outstanding services to the metallurgical industry ; 'The Consolidated Gold Fields of South Africa, Limited' Gold Medal for the session 1957–58, to Mr. F. A. Williams, for his paper entitled "Performance Analyses of Screens, Hydrocyclones, Jigs and Tables used in recovering Heavy Accessory Minerals from an intensely decomposed Granite on the Jos Plateau, Nigeria" (*Trans. Inst. Min. Metall.*, 67) ; and 'The Consolidated Gold Fields of South Africa, Limited' Premium of forty guineas for 1957–58, jointly to Mr. H. H. Fraser and Mr. O. E. A. Somerset, for their paper entitled "Scientific Management Principles applied to West African Mining" (*Trans. Inst. Min. Metall.*, 67) ; The 'William Frecheville' Student's Prize to Mr. I. R. M. Chaston, for his paper entitled "A Simple Formula for Calculating the Approximate Capacity of a Hydrocyclone" (*Trans. Inst. Min. Metall.*, 67).

Leverhulme Research Awards, 1959

THE Trustees have approved, among others, the following research fellowships and grants tenable for periods up to two years. *Fellowship :* Dr. K. R. S. Morris (epidemiologist attached to the American Foundation for Tropical Medicine, Inc., Harbel, Liberia) for a historical and epidemiological study of the movement of sleeping sickness across Africa. *Research grants :* Maurice Black (fellow and director of studies, Trinity College, University of Cambridge) to complete a study of limestone deposition in the Bahama Islands ; Geoffrey Bownas (lecturer in Chinese and Japanese studies, University of Oxford) for a comparative study of urban and rural life in Shiga Prefecture, Japan ; Dr. N. H. Hartshorne (reader in chemical microscopy, University of Leeds) for a critical study of the applications of polarization microscopy in chemical and biological research and practice ; Dr. K. J. Ivin (lecturer in physical chemistry, University of Leeds) to study the solution properties of polymers ; G. G. Lemon (lecturer in petrology and economic geology, University College of Wales, Cardiff) to study the metamorphic rocks of the County Sligo area, Eire ; Mrs. Lily Newton (lately professor of botany, University College of Wales, Aberystwyth) to study marine algae, especially those with walls yielding carrageenin and algin ; D. T. Whiteside (St. Catharine's College, University