resulting from ultra-violet irradiation and in detection of free radicals in various forms of carbon. Dr. Ingram has also been concerned with the study of maser and mavar problems, and with the use of electron resonance in applied electronics. He is the author of two books on the applications of microwave spectroscopy to physics and chemistry, and has been one of the instigators of the formation of the Radiofrequency Spectroscopy Group.

Chair of Applied Mathematics at Cardiff: Prof. P. T. Landsberg

Dr. P. T. Landsberg, who has been appointed to the newly created chair of applied mathematics at Cardiff, came to Britain from Germany in 1939. He followed his bachelor's degree in the University of London by a master's degree in the field of quantum mechanics, and in 1947 he became one of the early members of Dr. T. E. Allibone's staff at the Associated Electrical Industries Research Laboratory, Aldermaston. He participated in the semi-conductor interests of the Laboratory, concentrating on the theory of electrical barriers. The generosity of the Laboratory enabled him also to work at the same time for a Ph.D. degree under Prof. H. Jones on the effects of electron collisions on the soft X-ray emission bands of sodium; this investigation showed that there were long-range correlations among the electrons, resulting in an unexpected screening of the Coulomb interactions. Since 1950, Dr. Landsberg has been a lecturer in natural philosophy at Aberdeen, where his teaching interests have ranged from first-year practical classes to statistical mechanics at an advanced level. In 1956, together with his pupil, Dr. I. E. Farquhar, he helped to re-open the subject of the quantum statistical ergodic and H theorems, which were thought to have been proved by von Neumann in 1929 and later improved by Pauli and Fierz, by showing that they were based on an erroneous argument. Also in 1956, Dr. Landsberg published a notable paper on the foundations of thermodynamics in "Reviews of Modern Physics", and has a book appearing shortly in the same field. He has maintained his interest in semiconductors, where his most recent paper, with his pupil, Dr. A. R. Beattie, shows that electron collisions can play the dominant part in limiting the life-time of excess carriers in indium antimonide. From the agreement between his theory and the experimental findings, it appears that this substance may be the first semiconductor in which the life-time has been made to approach its theoretical maximum.

Festschrift for R. E. Snodgrass

The whole of Vol. 137 of the Smithsonian Miscellaneous Collections (Studies in Invertebrate Morphology. Pp. v+416+49 plates. Washington, D.C.: Smithsonian Institution, 1959) consists of a series of seventeen original articles by well-known entomologists from many parts of the world under the general title of "Studies in Invertebrate Morphology", and is published "in honor of Dr. Robert Evans Snodgrass on the occasion of his eighty-fourth birthday, July 5, 1959". It is hard to think of R. E. Snodgrass as having reached this score. He is the tough wiry Mark Twain type of American, admirably depicted in a frontispiece made last year; his ready and slightly caustic wit remains unimpaired, and he is still turning out first-class work on the morphology of insects. The book contains a sympathetic biographical chapter by Dr. Ernestine B. Thurman, illustrated with some of the highly professional comic drawings that Snodgrass produced in his early days. The scientific articles maintain a high standard throughout and many of them demonstrate the widespread influence exerted by Snodgrass as a morphologist. But Snodgrass has always taught that "morphology must be intimate with function" and it is appropriate that there are several good papers on insect physiology. There is plenty of good material in the volume; but it is fitting that the best paragraphs of all (pp. 17–18) should be those in which R. E. Snodgrass himself resumes his outlook on life in a few well-chosen words.

Sir Dorabji Jamsetji Tata (1859–1932)

The leading architect in the intellectual and industrial renaissance of India, Sir Dorabji Jamsetji Tata was born at Bombay on August 27, 1859, and was educated at Gonville and Caius College, Cambridge, and at the University of Bombay, where he graduated in 1882. On his father's death, he became head of the company, Tata and Sons, the largest industrial concern in India. In 1911 he established the Tata iron and steel works at Jamshedpur, and in the same year founded the Indian Institute of Science at Bangalore to prepare young Indians for the direction of modern large-scale industries and for industrial research. He was knighted in 1910 and served as president of the Indian Industrial Conference in 1915. A great philanthropist who rendered help without distinction of caste or creed, he gave £25,000 to the University of Cambridge in 1920 for the equipment of laboratories in the School of Engineering (he was elected an honorary fellow of his college in 1922). In 1931 he created as a memorial to his wife the Lady Tata Memorial Trust for research in any part of the world into diseases of the blood, and for work in India for the alleviation of human suffering. The last of his house, he died at Kissingen in Bavaria on June 3, 1932, and was buried in the Parsi cemetery at Brookwood, Woking. In 1945 the Tata Memorial Hospital was erected in the city of his birth.

National Science Foundation Review of Research and Development

In a statement on Research and Development and Economic Growth (issued as No. 13 by the U.S. National Science Foundation in its Reviews of Data on Research and Development), Dr. A. T. Waterman said that the Foundation's studies indicated that national research and development effort currently stood at more than 10 thousand million dollars, compared with less than 500 million dollars before the War, and had doubled since 1954. In terms of performance, industry accounted for about 70 per cent, Government about 20 per cent, and universities and other non-profit institutions for the rest: in terms of finance Government accounted for rather more and industry for somewhat less than half. Dr. Waterman stressed the long-term significance of the economic implications of research and development, and besides the beneficial results which war expenditure on military research and development might have on the civilian economy, research and development could stimulate the under-developed economies of other countries. It was the key to the two great challenges of the future: the increasing opportunity to achieve our own potential growth and expansion and the urgent need to co-operate with the great under-developed countries of the world. Of the 10 thousand million dollars currently expended