somes : one of them, the gene, is potentially capable of determining a particular course of cellular reactions; the other is associated with the control of this particular action.

In the Department of Embryology the discovery that there is extensive formation of neural-crest cells by the early embryonic eye (optic vesicle) throws light on the origin of the pigmented cells which appear early in the development of the eye. The development of the earliest human kidney rudiments has been thoroughly re-investigated, and further investigation of the physiology and biochemistry of uterine muscle has demonstrated that the 'staircase phenomenon', long known in heart muscle, occurs also in uterine muscle, and that the slope of the staircase is reversed by treatment with the corpus luteum hormone, progesterone. The discovery points to an essential role of potassium ions in uterine muscle contraction, and suggests that progesterone can modify the movement of potassium in and out of the muscle cell.

OPTICAL SOCIETY OF AMERICA

ANNUAL MEETING IN BOSTON

THE thirty-seventh annual meeting of the Optical Society of America was held during October 9–11, 1952, at Boston, Mass. Twenty-two invited papers covering spectroscopy, computational aids and atmospheric effects, in addition to other fields of science bordering on optics, were presented. The titles and abstracts of these papers and of the other contributed papers, together with a brief report of the proceedings of the meeting, are printed in the November issue of the Society's *Journal* (42, 868; 1952).

The invited papers include a discussion by N. Wiener on optics and the nature of spectra, a review of hyperfine structure investigations by F. Bitter, and a description of germanium phototransistors by J. N. Shive, of the Bell Telephone Laboratories. Various aspects of spectroscopy and radio astronomy are covered by communications from G. H. Harrison, R. Tousey, E. M. Purcell and others, including, in particular, one on multi-channel spectrometry by F. B. Fellgett, of the University Observatories, Cambridge. In addition, a review of recent developments in infra-red spectroscopy is given by R. C. Lord.

Three papers are devoted to the subject of "Flying Saucers". It is pointed out by D. H. Menzel, of the Harvard College Observatory, that about one-fifth of the numerous reports received by the United States Air Forces did not admit of a simple explanation but that the majority of these, when examined carefully, could be explained as due to atmospheric physical phenomena, such as mirages, or reflexions from layers of fog or haze, or from ice-crystals. From a study of several hundred reports of unidentified aerial objects, it is concluded by A. Hynek, of the Ohio State University, that only one phenomenon, that of a hovering nocturnal light, is not readily explicable on an astronomical basis, and, finally, it is definitely stated by U. Liddel, of the Bendix Aviation Corporation, that no evidence exists for any phenomena not explicable by standard physical concepts.

The annual business meeting of the Society was held on the morning of October 10, and the annual banquet, preceded by a cocktail party given by the American Optical Company, during the evening. At the banquet, over which the Society's president, Brian O'Brien, presided, the Adolph Lomb Medal was presented to Dr. A. B. Meinel, of the Yerkes Observatory, and the Frederic Ives Medal to Dr. Ira S. Bowen, director of the Mount Wilson and Palomar Observatories. The after-dinner speaker was Dr. Harlow Shapley, of the Harvard College Observatory, who spoke on the subject of galaxies. The Adolph Lomb Medal is awarded to a promising scientist under thirty years of age, and the Frederic Ives Medal, which was established in 1928 by Herbert Ives in honour of his father, is for distinguished work in optics. Both medals are awarded every two years.

On receiving his medal, Dr. Bowen gave an address, entitled "Optical Problems at the Palomar Observatory", in which he described the support systems and the testing of the mirror and methods of increasing the effectiveness of the 200-in. Hale telescope, the main instrument at the Observatory. The mirror is a paraboloid of 660 in. focus; but, in addition, convex hyperboloids are provided which, when combined with the main mirror, give telephoto systems of which the focal lengths are 3,200 in. at the Cassegrain focus and 6,000 in. at the coudé focus. In addition to the mirror, the equipment of the Observatory includes three Schmidt cameras of 8, 18 and 48 in. apertures and operating at focal ratios of 1, 2 and 2·5, respectively. Dr. Bowen remarked that the cameras have remarkably fine definition over fields 9–20° in diameter and are efficient instruments for the rapid photography of large areas of the sky. Nearly all the equipment described has been in operation for from six months to three years, and the performance has come well up to expectation.

BRITISH ASSOCIATION OF CHEMISTS

HINCHLEY HOUSE

THE British Association of Chemists has recently acquired a freehold property, 14 Harley Street, London, W.1, for use as its headquarters. It was decided to name the premises 'Hinchley House' in memory of Prof. J. W. Hinchley, a founder member and the first president (1918–23). It was due to his influence and skill in directing its policy that the Association survived its first four difficult years. Prof. Hinchley was also instrumental in founding the Institution of Chemical Engineers, and his name will always be associated with chemical engineering, for many of the advances it has made in Great Britain are due to his conviction of its importance to industry and the necessity of making it a specialized branch of scientific study. The name of Prof. Hinchley had earlier been perpetuated through the annual award of the Association's Hinchley Medal, which is given for outstanding services to the profession of chemistry.

An opening ceremony was held at the new headquarters on February 27, when a number of members and guests, representing other bodies connected with the profession of chemistry, were present. Mr. F. Scholefield, president of the Association, in declaring the premises open, said that this function was indeed a red-letter day in the history of the British Association of Chemists, which thus became the first society of chemists to possess its own freehold property in London. The Association was formed in 1917 owing

to the strong feeling among chemists in industry that there was no body having the prime function of looking after the economic interests of chemists. The Institute of Chemistry, as it was in those days, was a qualifying body, and it was outside its scope to look after such interests. After meetings in Birmingham, Manchester and London, the Association was formed.

Before long there was established, on the initiative of the London Section, a scheme whereby unemployment benefit was made available to members. The Unemployment Benefit Fund has been so well managed that to-day it is possible for the Association to pay as much as nine guineas per week to members temporarily unemployed. Although more than £20,000 has been paid out in benefit, there is to-day a balance of £52,000. It appeared to the House Committee, which included Mr. Norman Sheldon (chairman), Mr. C. S. Garland, Mr. G. T. Gurr and Mr. H. L. Howard, that it would be possible to invest some of that money to the advantage of the Fund and at the same time provide a worthy headquarters for the Association. Mr. Scholefield said that the greatest credit should be given to the House Committee, and that he would like to congratulate those who have been responsible for this really magnificent result. He then declared Hinchley House to be open.

After the ceremony, a tablet, inscribed with the names of the past-presidents and Hinchley medallists, was unveiled by Dr. Herbert Levinstein, who was president of the Association during 1923–24, immediately after Prof. Hinchley. This tablet was presented in memory of the late Mr. C. A. Wylie, president during 1951–52, by his family and friends.

Afterwards Dr. Levinstein gave this year's Hinchley Medal address entitled "Our Changing Chemical Industries : an Appraisement".

SURVEY OF FOOD CONSUMPTION AND EXPENDITURE IN GREAT BRITAIN

In Great Britain the War-Time Food Survey was almost entirely limited to urban working-class households, and, as the National Food Survey, it continued in the same form until the end of 1949. Since then, however, an attempt has been made to obtain a more representative sample, so that all classes and types of consumer are included. A recent report issued by the Ministry of Food* is the first of an envisaged annual series, setting out full details of food consumption and expenditure by families throughout the country.

Records were obtained from 4,723 families, of which 70 per cent were "urban working class", 11 per cent were "other urban households", and 19 per cent were "rural". The first group provides data suitable for direct comparison with results obtained in the earlier surveys and permits long-term trends to be followed through. The new material, however, is subjected to much more detailed analysis in an attempt to bring out economic, dietetic or nutritional differences between one group and another. Families are divided according to "composition" and to "social class", and numerous tables are presented which show the effects of increasing numbers of children in the household. Seasonal variations are demonstrated, and also the varying ability of the different social groups to maintain their normal standards in the face of price increases (temporary or progressive).

As a social document this report is probably as valuable as any ; the data on which it is based are considerable and there is every sign of the greatest care having been taken to obtain a high degree of accuracy at every stage. Yet, as a contribution to nutritional knowledge in Great Britain it is disappointing ; it does not establish the caloric and nutrient levels at which these families were actually living, and yet that is the information which would be of most value.

The factual material, on the food consumption side, is confined to the amounts bought or obtained "free" during the survey week, together with appropriate additions or deductions according to "changes in stocks". The amounts discarded by the housewife in preparing the food for table have not been measured, nor has any record been made of the amount of edible material that was not actually eaten. It is a great weakness in this type of survey that, on both scores, arbitrary adjustments have to be made. The allowance for wastage of edible material made here is an overall ten per cent; but do we really throw away one loaf in every ten, every tenth bottle of milk, one-tenth of our butter, our sugar and all the other foodstuffs of which so many communities stand in the direst need ? If we do, it is time that the crime of so doing was brought home to us more strongly. It is good that a footnote promises that this matter is to be examined further ; certainly, it seems unlikely that all foods are wasted in the same proportion and to the same extent by all social groups.

Despite these deductions, however, it appears that intakes were more than adequate in practically all respects, although households with four or more children, or with both adolescents and children, were only marginal and were adversely affected by the lowering of the extraction rate of flour from 85 to 80 per cent in the middle of the year. There is, however, ample room for further errors in the estimates of requirements and in the arbitrary deductions made from the standards used, to allow for meals obtained outside the home. It is to be hoped that modifications will be introduced into the survey technique so that the necessary adjustments may, in future, be made on a more factual basis.

M. W. Grant

* Ministry of Food. Domestic Food Consumption and Expenditure, 1950, with a supplement on Food Expenditure by Urban Working-Class Households 1940–1949. Annual Report of the National Food Survey Committee. Pp. 132. (London : H.M.S.O., 1952.) 4*s*. 6*d*. net.

WINTER CASCADING FROM AN OCEANIC ISLAND AND ITS BIOLOGICAL IMPLICATIONS

By BRIAN P. BODEN and ELIZABETH M. KAMPA
Bermuda Biological Station, Bermuda

The circulation of Bermuda waters during the summer, and the possibility that this circulation acts as a mechanism for conserving insular plankton, have already been discussed[1]. Since that discussion presented only the summer picture, it became of interest to determine the winter circulation in order to understand the existence of an endemic plankton population.

It must be emphasized again that the marginal reefs around Bermuda are not at all continuous ;