tains an isotope 207 which is almost certainly the end product of the actinium series.

The next outstanding advance came from a totally different experimental source, the analysis of band spectra by the application of the quantum theory. By this means Giauque and Johnson discovered the rare isotopes 17 and 18 of oxygen in 1929 and similar discoveries followed in connection with carbon and nitrogen. These discoveries are all to be credited to American science which has taken an increasing share in the researches on isotopes in recent years. At the Bartol Institute, Bainbridge, by means of a very powerful apparatus of his own design, has corrected errors in the abundance of the isotopes of zinc and germanium, discovered new isotopes in tellurium and measured the packing fractions of several types of atoms, notably the important beryllium 9.

The latest and most spectacular discovery is that of the hydrogen isotope of mass 2. Following the discovery of the complexity of oxygen Birge pointed out that if the determination of the mass of the atom H_1 by the second mass-spectrograph was to be relied on hydrogen also should have heavier isotopes. Urey, Brickwedde and Murphy made a diligent search and were rewarded by the discovery of H_2. By means of their concentrated samples Bainbridge has photographed the line due to the molecule $H_1H_1H_2$ and so measured the mass of the new isotope. It is unique among isotopes for results of electrolysis give every hope of separating it in quantities on a practical scale and so opening up an entirely new field in chemistry. Its abundance in ordinary hydrogen is still uncertain. If, as results with the band spectra of HCl indicate, this is of the order 1 in 35,000 it is quite inadequate to account for the actual discrepancy which led in the first case to its discovery.

SCIENTIFIC EVENTS

NEW BUILDING FOR THE DEPARTMENT OF ZOOLOGY AT THE UNIVERSITY OF LONDON

THE Earl of Athlone, Chancellor of the University of London, formally opened the new building for the Department of Zoology and Comparative Anatomy, University College, London, on June 12.

According to the London *Times*, the site, acquired on the liquidation of Messrs. Shoolbred in 1931, contains a range of buildings surrounding a courtyard—since named Foster Court in commemoration of the first Provost of the college, Sir Gregory Foster—and the building on the east side of the courtyard is the one that has been adapted to the requirements of the department of zoology. It formerly consisted of stables on the ground floor and workshops on the two upper floors, which have been converted into laboratories, classrooms, a museum and other divisions.

The new main staircase occupies the eastern half of an internal tower, which has been carried up so as to provide a small fourth floor and a flat roof. Built into the eastern containing wall and placed between two plane trees is a gateway, the gift of the Pewterers' Company, in whose hall it stood before demolition. This is believed to date from about 1668–69, and it is suggested that it may be from a design by Wren.

The Earl of Athlone, who lunched at the college and unveiled a mural tablet in Foster Court to the memory of the first Provost, was joined by Princess Alice for the opening ceremony. In his speech he stated that the department of zoology was established in 1828, when Professor R. E. Grant, in his first course of lectures, proclaimed himself a believer in evolution. In 1874 Edwin Ray Lankester was appointed to the chair of zoology, and under his régime practical teaching was introduced. Lankester's personality drew to him many men of great ability, who passed on from the college to fill a large proportion of the chairs of zoology of the Empire. His influence determined the whole character of the teaching of zoology for half a century.

To ensure an adequate training for students of zoology it had become necessary to provide staff and laboratories for the study of genetics, comparative physiology and animal behavior. Through the generosity of the Rockefeller Foundation, the London County Council and Dr. Rodocanachi, it had been found possible to establish posts in those three subjects, to provide those who may be appointed to them with the laboratories and equipment and library facilities, and to bear the heavy cost of their research.

Professor Sir John Rose Bradford, chairman of the College Committee, presided, and was supported by Dr. Allen Mawer, Professor L. N. G. Filon and Professor D. M. S. Watson.

THE WISCONSIN ALUMNI RESEARCH FOUNDATION

THE Wisconsin Alumni Research Foundation has made grants-in-aid to the University of Wisconsin for next year in a sum sufficient to prevent the suspension of its research program which has been threatened by reduced appropriations.

The grants have been approved by the Board of Regents. The exact amount can not be determined until the revised salary schedules for 1933–34 have been fixed and other details of the research program completed.

The Research Foundation, a non-profit corporation organized by alumni interested in the development of research, derives its income from patents based on discoveries made by Wisconsin investigators and alumni who have voluntarily assigned their rights to the foundation in order to protect the public from unscrupulous exploitation and to build up a permanent fund for the support of research at the university.

Ordinarily, each year the foundation, of which Professor H. L. Russell is director, has used all its interest income from its invested capital in supporting university research. In the emergency which now obtains the trustees of the foundation have decided they could render no more useful public service than to add to the customary support they give the university a material sum from the anticipated income of the coming year to help meet the critical financial condition.

In announcing these grants, President Frank said:

Next year the University of Wisconsin will assign thirty-six of its productive scholars, for periods ranging from a few months to a full year, to the direction of between sixty and seventy important researches, some of them freshly authorized by the research committee of the university, but many of them projects already under way that would have to be abandoned but for the fact that the Alumni Research Foundation has stepped into the breach and saved the day for productive scholarship.

The terms under which the university will commission these scholars to carry on these researches involve a new and more economical system of graduate study, under which the traditional system of formal lectures and regularly scheduled seminars will be supplanted by an informal master-apprentice relationship between the thirty-six scientists and scholars directing these researches and their graduate students.

The greater the confusion of a time, the greater the need for sustained research in the natural and social sciences. But the current economic stringency is making it difficult for universities to keep even their normal research programs going. Many universities are now being forced backward just when they should, for the sake of the national future, be going forward.

The Alumni Research Foundation enables the university, despite the difficulties of the time, to carry on its research service to state and nation. Thanks to the statesmanlike action of the trustees of the foundation, Wisconsin, through this policy of research, correlated with a master-apprentice system of graduate training, again pioneers in the enrichment of university policy and university service to the state.

Associated with the thirty-six senior members of the staff, assigned to the direction of these researches, will be fifty or sixty research assistants, many of whose appointments might otherwise end this year because of lack of funds. The funds also will permit many young Wisconsin men and women who are completing their university training this year to continue their work in the scientific fields in which they have been specializing for from four to six years.

GRAVITY EXPEDITION IN CUBA

BETWEEN January 7 and May 3, 79 gravity stations were completed in Cuba, principally in the Provinces of Havana, Matanzas, Santa Clara and Camagüey. There were four stations in each of the other two provinces. This expedition was sponsored by a committee of the American Geophysical Union, and was made possible through the cooperation of the Cuban Government, the Compañía Petrolera Carco, the United States Coast and Geodetic Survey, the United States Naval Observatory and the department of geology of Princeton University. The object of the expedition was to determine direct gravity by means of the new Brown apparatus at certain key points selected in relation to data already available from the torsion balance surveys and structural studies completed by the Compañía Petrolera Carco. The field work was done by Lieutenant A. J. Hoskinson, of the Coast and Geodetic Survey. The theoretical gravity, both by the Helmert and Bowie formulas, together with the isostatic anomalies, has already been computed and will be published shortly, together with an analysis of the relation of the anomalies to the fundamental structural trends in the basement rocks of Cuba. A preliminary analysis of the anomalies shows that the Rio Cauto Valley is underlain by dense rocks, which tends to controvert the previous theory that this valley is synclinal. Following the experience of the recent marine gravity expeditions in the West Indies, and the pendulum expeditions in the Big Horn Basin, there is already abundant proof that pendulum observations, especially when the proper corrections are made for observable rock densities, afford an important and valuable addition to geophysical methods for determining subsurface structures, both on land and at sea.—RICHARD M. FIELD.

COMMITTEE OF DUTCH PROFESSORS ON BEHALF OF GERMAN JEWISH STUDENTS AND GRADUATES

AN academic committee of Dutch professors, of which Professor P. Van der Wielen has been appointed the chairman and Professor Dr. H. Frijda, Amsterdam, is acting as honorary secretary, has issued a statement which reads as follows:

The repressive measures against the Jews in Germany have especially heavily affected Jewish students and the university graduates of that country. Thousands of doctors, lawyers and those fulfilling lesser legal offices and those holding positions at the academies, many among whom have already given evidence of high scientific value, have been suddenly thrown out of their professions and deprived of their livelihood. Owing to the definite attitude of the authorities it has been made