

"I will give two hundred pounds a yeare to begin from Midsommer day last past. July 17, 1678 James."

A wealth of material is illustrative of projects and plans for re-building London, its churches, and public offices, under royal commission. Singular in its interest is the great model and rejected design (in oak and other media, and now in complete repair) submitted to the King for a new St. Paul's. A copy is exhibited of Willis's "Anatomy of the Brain" (1664). Though the plates are unsigned they were the work of Wren, as stated by Willis in the preface. It remains to add to this brief notice of some of the many objects displayed that the unique "heirloom" copy of "Parentalia" (Memoirs of the Family of the Wrens, 1750) is exhibited. This copy descended in the family of Wren, ultimately, by purchase, passing into the ownership of the Royal Institute of British Architects.

From the earliest inception of the Royal Society, and onwards, Wren had been a faithful coadjutor in many ways, a councillor strenuous in effort, prompt in action. On St. Andrew's Day, November 30, 1680, the date of the anniversary meeting (held at Gresham College) for the election of a president and council, it appears that Wren had been re-nominated for membership of council, in company with others. A new incoming member, no other than Robert Boyle, the illustrious philosopher, was chosen as president to follow Sir Joseph Williamson. However, the unexpected happened, for Boyle, in a letter to Robert Hooke, declined office, respectfully desiring the Society to proceed afresh. Whereupon, without any dissentient, Sir Christopher Wren was elected, and he was continued in the post at the anniversary meeting of the year following.

Our existing cordial relations with Sweden are curiously reminiscent of that remote gathering. It is recorded that whilst the lists were being collected, M. Lyenbergh, envoy from the King of Sweden, presented a letter and two books from Dr. Olaus Rudbeck, professor of anatomy at Uppsala, Sweden, for which the president returned the Society's thanks to the envoy. Both communications engaged discussion at a subsequent meeting.

University and Educational Intelligence

CAMBRIDGE.—The professor of physiology has, with the approval of the General Board, appointed G. S. Adair, of King's College, an assistant director of physiological research.

The Cavendish professor of experimental physics gives notice that the Clerk Maxwell Scholarship will be vacant in December 1932. Candidates are requested to send in their applications to Lord Rutherford, at the Cavendish Laboratory, on or before November 1.

At Trinity College Mr. H. Davenport and Mr. G. A. Millikan have been elected into fellowships.

ST. ANDREWS.—An extensive addition has been made to the Bute medical buildings in the form of a new block to house the Departments of Botany and Geology, zoology taking over the accommodation vacated by botany. The new building is of stone and has a dignified appearance, combining harmoniously with its surroundings. The ground floor is occupied by the Botany Department and comprises a lecture room, which will accommodate seventy students, laboratories, research rooms and herbarium. Above are the classrooms of the Geology

Department, together with laboratories for palæontology, mineralogy and petrology. Excellent facilities are available for research both in the building and in the country round St. Andrews.

The work of the Departments of Chemistry and Natural Philosophy was handicapped last session on account of the fire on November 3. Reconstruction and alteration have now been completed, and improvements have been made in the physical and chemical laboratories. A good-sized honours laboratory has been provided at the top of the main staircase for students of physics, and the accommodation for physical chemistry has been much improved. Mr. Donald Mills was the architect for all these buildings.

RESEARCH in higher education is recognised and encouraged by the United States Office of Education as of fundamental importance at the present time and the first of a series of official bulletins on the subject has recently been issued by the Government Printing Office. This reproduces eleven papers read at a conference held last year under the joint auspices of the Office of Education and the University of Oregon. Some years ago this University instituted an elaborate investigation of the methods by which university teaching might be improved. A five-year experimental programme was prepared and a faculty committee proceeded to carry it out. In the papers now published are summarised some of the results grouped under the headings "Instruments of Measurement" (for example, marking systems and types of examination), "Student Personnel Studies" and "Administrative Measures Based on Test Results". Under the second of these are included some interesting accounts of "orientation" and "how-to-study" courses designed as safeguards against the waste of time and discouragement which, in the absence of a tutorial system, are too often experienced by students on passing from school to university, while they are adjusting themselves to the changed conditions of life and study. Such courses, consisting mainly of assigned reading, discussion, some lectures with drill in note-taking, and a large amount of specific drill in approved methods of study and economies in the use of time, have been provided at Oregon since 1927 and their results have been carefully watched and evaluated both subjectively (collecting students' opinions) and objectively—by comparing academic records of students who had participated in the course with those of 'control' groups who had not.

Calendar of Geographical Exploration

Oct. 25, 1616—West Coast of Australia

Dirk Hartogszoon reached the island still known as Dirk Hartog Island and sailed northward along the west coast of Australia from 26½° to 23° S. In 1696 de Vlamingh, in the course of an important survey of the coast, during which the islands fringing Shark's Bay were discovered, found a pewter plate set up by Hartog on his visit. De Vlamingh also visited the Swan River, so named from its black swans.

Oct. 26, 1776—South-west United States

Two Franciscan friars, Fathers Escalante and Dominguez, reached the Colorado River on their return from a journey begun in Santa Fé in July. They set out with the aim of opening up an overland route from northern Mexico to the Pacific seaboard.

They failed in this, but their journey was the most important achievement in the south-west of what is now the United States until the beginning of the nineteenth century. From Santa Fé they went north-west, crossing the upper Rio Grande and entering the basin of the Colorado. They reached the head waters of the San Juan, its eastern tributary, crossed the plateau region between it and the upper Colorado and traced part of the course of the Rio Dolores. They visited the Yuta (Utah) Indians and arrived in the territory of the Comanche Indians after crossing the Green River. A difficult mountain traverse brought them to Utah Lake, which discharges northwards into the Great Salt Lake. This journey marks the farthest advance of the Spaniards in the interior of North America; it was not followed up, fur hunters and adventurers from the United States being the first to make their way into the region of the Great Salt Lake. Escalante's narrative gave useful information about the climate, products and peoples of the region.

Oct. 29, 1762.—Niebuhr in Yemen

A party of Danish scientific workers, among whom was Carsten Niebuhr, a mathematician and practical surveyor, arrived at Jidda in a pilgrim ship. There they remained for two months before they could get a barque to take them on to Yemen, and they passed the time in making observations on the country inland. The party broke up at Beit el-Fakih, and between them covered most of the Tehama southwards to Tais and Zebid and the lower mountains. They were able to travel unmolested in a country afterwards noted for its fanaticism until they reached Mokha. Three of them reached Sana in July, 1763, but they were ill, and two had died; they decided to return, two of them dying on the voyage. Niebuhr was in Arabia again in 1765. Sana, his farthest point inland, is less than a hundred miles from the Red Sea coast, and he explored but a small region. Yet the insight he showed and the careful and faithful delineation of what he saw have made his work a classic still valuable to the student and would-be traveller in the Yemen.

Societies and Academies

LONDON

Society of Public Analysts, Oct. 5.—E. Hinks: Third report of the Milk Products Sub-Committee: The analysis of sweetened condensed milk in which the sucrose has altered during storage. The problem was at first thought to be one merely of determining invert sugar, but by the study of 'aged' sweetened condensed milk by various processes, a modified Barfoed process, copper reduction processes, and in particular a combination of the polarimetric and chloramine-T-iodide oxidation, it was found that the usual hydrolysis products of sucrose present, if any, were dextrose, lævulose and lævan, the proportion of dextrose being sometimes as high as nine or ten times that of lævulose.—E. B. Hughes: A new copper reagent for sugar determinations. This reagent consists of copper acetate (5 gm.) mixed with triethanolamine (5 gm.) and made up with water to 100 c.c. The reagent has selective reducing properties; its action on dextrose is appreciable; its action on lævulose is very much greater, and it is only negligibly active towards sucrose, lactose and maltose. By modifying the formula (also by purifying

the triethanolamine) the reagent can be made to react strongly with lævulose, but not to oxidise dextrose.—W. G. Moffitt: A colorimetric method for the determination of chloroform. The blue colour reactions given by chloroform with α - or β -naphthol in a strong solution of sodium hydroxide have been made the basis of a rapid colorimetric method of determining chloroform. None of the seven chloro compounds tried (including carbon tetrachloride) was found to have any appreciable influence on the reaction with β -naphthol, although α -naphthol gives a blue coloration with carbon tetrachloride under the conditions of the test.

MELBOURNE

Royal Society of Victoria, Aug. 11.—Leo W. Stach: Victorian Tertiary Polyzoa. (2)—Catenicellidæ. A review of this typically Australian group of the Polyzoa and a suggested new subdivision into three subfamilies, based on the position of the ovicell on the zoarium. This paper discusses the new subfamily Vittaticellinæ and correlates ovicelled zoecia described as distinct species with previously described forms.

ROME

Royal National Academy of the Lincei, May 1.—G. Armellini: The increment of the eccentricity in the problem of two bodies of diminishing mass, with applications to the orbits of binary stars. For a system consisting of a satellite and a principal star, it has been shown that, if the mass of the system is a decreasing function of the time, the mean orbital distance is an increasing function of the time. Some authors consider that, under these conditions, the eccentricity remains virtually constant, but it is now shown that this view is inaccurate.—U. Broggi: Series of factorials and equations to the differences.—R. Caccioppoli: Linear functionals in the field of analytic functions.—A. Mambriani: The summability of Fourier's double series of discontinuous functions.—T. Boggio: A theorem of Stacci for the motion along a curve.—A. Consiglio: A revolving elliptical obstacle invested by an irrotational plane current.—G. Agamennone: The reflection of seismic waves at the antipodes as a cause of earthquake shocks. An attempt was made by Oddone in 1907 to prove that seismic waves, generated by a violent earthquake shock, may be propagated along the earth's diameter to be reflected back along their path and thus give rise to a shock of less intensity than that of the original shock; a second such reflection, giving another shock, was also considered possible. Various difficulties involved in such hypothesis are now discussed.—B. Rossi: Secondary effects of penetrating corpuscular radiation. In traversing matter, the corpuscles of penetrating radiation generate a secondary radiation, probably also corpuscular. The number of such secondary corpuscles generated in iron is only about one-half of the number generated in lead and is less than would correspond with the ratio between the two densities. The penetration in iron is, however, about three times that in lead, so that the number of secondary rays in equilibrium with the penetrating corpuscular radiation should be somewhat greater in iron than in lead.—B. Rossi and B. Crinò: Anomalies in the absorption of penetrating radiation. Measurements of the absorption in thin lead screens have been made to show the influence of secondary radiation in experiments carried out by the coincidence method