must be sought the key to much of the early history of the Titicaca depression. The Tiahuanaco Valley and its celebrated ruins will be studied in relation to the supposed ancient levels of Lake Titicaca and the limits of food production in the valley to-day.

Professor Bowman's results will be published in preliminary form in the *Bulletin* of the American Geographical Society and in final form in a volume entitled "The Central Andes."

GLACIAL EXCURSION OF THE CANADIAN GEOLOGICAL CONGRESS

SEVERAL of the excursions, in connection with the twelfth International Geological Congress, held in Canada next summer, will go from Toronto to Vancouver. Then an excursion (C8 August 29 to September 22), under the leadership of R. G. McConnell, and with guidance of R. W. Brock, D. D. Cairnes, and W. W. Leach, will traverse the fiords of British Columbia, ascend the Skeena River valley from Prince Rupert to Aldermere by rail, visiting the silver-lead mines and coal mines, and continuing to Skagway by steamer. There will be stops at the copper mines on Portland Canal and the Treadwell gold mine on the Gastineau fiord at Juneau. The excursions will then cross the Canadian Coast Range by the White Pass and Yukon Railway to Whitehorse, stopping at the copper deposits there and the coal mines at Tantalus, descending the Yukon River to Dawson and the Klondike gold field in the driftless interior plateau near latitude 64° north.

After the return to Skagway an excursion, under the direction of Lawrence Martin of the University of Wisconsin, will be made, on a special steamer, to the Malaspina Glacier, Yakutat Bay, and Muir Glacier, where Russell Wright, Reid, Gilbert and Tarr have done world-renowned work. This glacial excursion will last five days, with a possibility of two days more in case of cloudy weather.

The first day will afford an opportunity of seeing the Fairweather and St. Elias Ranges, 16,000 to 18,000 feet high, and covered by snowfields and glaciers. These ice tongues include the La Perouse, Malaspina and many smaller glaciers. The front of the great piedmont ice sheet of Malaspina Glacier will be followed, affording an opportunity of seeing the tidal ice front of the Guyot lobe west of Yahtse River, the moraine-veneered ice cliff of the Seward lobe at Sitkagi Bluffs, and the forest-covered terminus of the Marvine lobe near Point Manby.

On the second day something will be seen of the eastern border of Malaspina Glacier in Yakutat Bay and the forested terminal moraine of the Yakutat Foreland. Landings will be made in Disenchantment Bay in connection with various glacial phenomena such as the shrub-covered ablation moraine upon the ice of Variegated Glacier, the streams engaged in carrying and depositing outwash gravels, the calving of icebergs from Hubbard and Turner glaciers, the cirque vacated by a fallen glacier, and the beaches, rock benches, sea cliffs and islands which were uplifted from 7 to 47½ feet during the earthquakes of September, 1899.

The third day will be spent on and near the Nunatak Glacier in Russell Fiord. Here the hanging valleys, the till-veneered, overridden outwash gravels, and the tidal, land-ending and cascading glaciers will be visited and studied, as well as the phenomena of glacial erosion in the barren area from which the ice has recently retreated and of fault scarps made during the 1899 earthquake. Some of these scarps are vertical and are 4½ to 8 feet high.

The fourth day will afford an opportunity of seeing the morainic and glacio-fluviatile phenomena about the terminus of the Hidden Glacier, which advanced 2 miles between 1906 and 1909, as a result of the earthquake avalanching in 1899 which has subsequently caused 9 ice tongues of Yakutat Bay to move forward. After this landing something will be seen of a fiord with submerged hanging valleys, submarine moraines, buried forests, shorelines depressed in 1899, and the high strand lines of a former glacial lake.

Part of the fifth day will be devoted to

Glacier Bay, where there has been a recession of 8¾ miles at Muir Glacier from 1899 to 1911. A landing will be made in Muir Inlet to see the buried forests, the vertical ablation of over 1,200 feet of ice in 12 years, and many other phenomena. The rapid recession of Grand Pacific Glacier in Reid Inlet at the head of Glacier Bay now places part of this fiord in Canada. The glacier melted back 5,000–7,400 feet in two months during the summer of 1912, as was determined by N. J. Ogilvie of the Canadian Boundary Survey. At the International Boundary there is now dry land and open fiord where the ice was at least 1,750 feet thick as recently as 1894. Sixty miles of Glacier Bay have been opened to the ocean by glacier recession since 1794, making an arm of the sea as long as Hardanger Fiord in Norway.

The National Geographic Society of Washington has made a grant of money to Professor Martin to enable him to make detailed studies at Grand Pacific and Muir Glaciers while the excursion is in the Klondike. He will (*a*) measure the recession of several ice tongues in Glacier Bay, (*b*) look for advances of glaciers, (*c*) study the exhumed forests in relation to former glacial oscillations, and (*d*) make soundings in Canada's new harbor and other uncharted waters recently vacated by the glaciers, to see the effects of ice sculpture below sea-level.

SCIENTIFIC NOTES AND NEWS

A TABLET in honor of Dr. Samuel Pierpont Langley was unveiled in the Smithsonian Institution on May 6. Addresses were made by Dr. Alexander Graham Bell and Dr. John A. Brashear. At the same time Langley medals were awarded to M. Gustave Eiffel and Mr. Glenn H. Curtiss. Later in the afternoon the Aero Club of Washington arranged hydro-aeroplane maneuvers on the grounds of the Army War College in honor of Dr. Langley.

THE Chemical Society, London, will hold a special meeting on May 22, when a lecture in memory of Jacobus Henricus van't Hoff will be delivered by Professor James Walker, F.R.S., of Edinburgh.

DR. JOHN M. CLARKE, New York state geologist and director of the state museum, has been invited by the president and council of the Royal Society of Canada to deliver the annual public address before the society at Ottawa on May 28.

DR. E. F. ROEBER has been elected president of the American Electrochemical Society.

DR. A. E. KENNELLY, of Harvard University, has been elected an honorary corresponding member of the British Association for the Advancement of Science.

PROFESSOR L. J. LANDOUZY, dean of the Paris faculty of medicine, and known by his researches on nervous diseases and tuberculosis, has been elected a member of the Paris Academy of Sciences, in succession to the late M. Teisserenc de Bort.

SECRETARY LANE has announced the selection of Professor Adolph C. Miller, who holds the chair of economics and commerce in the University of California, as first assistant secretary of the interior. Secretary Lane intends to assign to Mr. Miller general supervision of the Bureau of Education and of the national parks; the direction of eleemosynary institutions, such as Howard University and the Government Hospital for the Insane, and the handling of legislative matters in connection with the constructive policies of the department.

DR. KARL KOETSCHAU, director of the Kaiser Friedrich Museum in Berlin, has accepted the directorship of the newly established Central Museum in Dusseldorf.

DR. ALBERT M. REESE, professor of zoology in West Virginia University, sailed on May 5, from San Francisco, on the army transport *Sherman* for Manila, to study the fauna of the Philippines and other regions of the orient, and to make collections for the Smithsonian Institution, from which institution he holds a commission as "collaborator in zoology." He will return to the United States in September.

FORMER PRESIDENT GEORGE E. MACLEAN, of the State University of Iowa, has accepted temporarily the position of specialist in higher