

mental evidence of the existence in yeast of an alcohol-producing enzyme. Professor A. B. Macallum (Toronto) presented certain new views on the significance of intracellular structures and organs. According to him the centrosphere is the oldest part of the cell. The nucleus and the cytoplasm are secondary structures. This explains the fact that in cell-division the division of the centrosome precedes that of the rest of the cell. These views were opposed by Mr. H. Wager (Leeds), who gave strong evidence for the presence of a nucleus in the yeast-cell, and by Professor J. B. Farmer (London).

The final session was held on Wednesday forenoon and was devoted to psychological and miscellaneous papers. Professor W. D. Halliburton (London), on behalf of himself and Dr. Mott, discussed the action of cholin, neurin and allied substances on the circulation, in connection with the discovery by them, in the cerebro-spinal fluid in certain forms of insanity, of a substance which appears identical with cholin and depresses blood-pressure by acting upon the heart. Professor R. Boyce (Liverpool), on behalf of himself and Professor W. A. Herdman (Liverpool), discussed the presence of copper in animal cells. Papers were read by Dr. T. W. G. McKay on intestinal absorption of hæmoglobin and ferri-ratin, by Mr. R. R. Bensley (Toronto) on the morphology and physiology of gastric cells, and by Mr. O. F. F. Grünbaum (Cambridge) on visual reaction to intermittent stimulation. Professor Wesley Mills (McGill) discussed the functional development of the cerebral cortex in different groups of animals (see *SCIENCE*, Vol. V., p. 134), and the psychic development of young animals. In the latter paper he presented the results of a correlation of the psychic development of the dog, cat, rabbit, guinea-pig, rat, and bird with the development of the cortical centers. Professor C. Lloyd Morgan (Bris-

tol) read a suggestive paper on the physiology of instinct. The essential part of the objective aspect of instinctive activity is the coordination of outgoing impulses. This activity is at first unconscious, but later, by the coming in of afferent impulses, consciousness may appear. Professor L. Witmer (Pennsylvania) discussed the nature and physical basis of pain. Pain is a sensation, the central organ of which consists of the sensori-motor centers; no special pain nerves exist.

On account of the full program comparatively little general discussion of the papers was possible, and this constituted the one drawback of the meeting. The sectional committee, the membership of which has already been printed in *SCIENCE*, p. 335, held daily sessions, and the usual grants for research were asked for.

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*THE PATAGONIAN EXPEDITION FROM
PRINCETON UNIVERSITY.*

THIS expedition, dispatched to Patagonia from Princeton University in February, 1896, returned during August. It was under the auspices of Professor W. B. Scott, of the Department of Geology, and had for its object the collecting of vertebrate fossils from the Tertiary deposits, and the skins and skeletons of recent birds and mammals. It was directly in charge of Mr. J. B. Hatcher and his assistant, Mr. O. A. Peterson.

The objective point was the Port of Gallegos, on the east coast of southern Patagonia, which was reached April 29, 1896. From this point investigations were conducted, first along the coast from Sandy Point, in the Straits of Magellan, to Port Desiré, on the north. In this region many interesting fossil forms were secured and a nearly complete series of living birds, mammals and plants. After spending several

months in the coast region, an expedition was made into the interior, into the little known lake region about the head waters of the Santa Cruz river and to the northward into an absolutely unknown region of the Cordilleros. Here many new glaciers were discovered and important water courses located.

The time spent in this region was most enjoyable, and the results there attained contributed even more to the success of the trip than those nearer the coast. Being an unexplored country not only were new facts relating to the geography of the region discovered, but many animals and plants new to science were also collected; and the series of observations made, and facts obtained, relating to the age of the Cordilleros and other geological phenomena of the entire region, are of the greatest value. Scattering over the plains region of the interior were found numerous volcanic cones hitherto unreported which were shown to have been the source of the great lava beds which in many places are spread in great sheets over the surface of the country.

On account of the difficult travelling and the length of time consumed on this trip into the interior, it was absolutely impossible to take any great supply of provisions, so that it became necessary to limit the personnel of the expedition to Messrs. Hatcher and Peterson, who were gone five months on this trip, during which time not only was it impossible for them to receive or dispatch any mail, but they never met with or saw a single human being but their two selves.

The result of the work done in Patagonia may be briefly summarized as follows:

The discovery of many new facts relating to the geography of the region.

The discovery of several geological horizons new to Patagonia.

The making of a complete geological section from the igneous rocks forming the

mass of the Cordilleros to the uppermost Tertiary rocks, and extending from the Cordilleros to the Atlantic coast.

The collecting of a nearly complete series of the mosses, hepatic and flowering plants, not including grasses; of some 800 skins and skeletons of recent birds and animals and about eight tons of fossils, including more than 1,000 skulls and many nearly complete skeletons—altogether, the most valuable collection from that region to be found anywhere in the world.

After spending a little more than a year on the mainland, the expedition proceeded to Tierra del Fuego and the adjoining islands, where important collections were also made, especially of the plants of that archipelago, and observations were made concerning the geology and paleontology of the islands, which it is believed will be of considerable importance. Some attention was also given to the Indians of this region, especially of the Channel and Canoe Indians, who live almost entirely in frail boats of their own manufacture and subsist wholly upon shell fish, which they are able to pick up in great abundance along the shore. The great accumulation of shell heaps observed at certain points along the shores is believed to point to a great antiquity for this exceedingly primitive tribe.

Throughout their work the Argentine government was very generous and courteous to the expedition, giving to its members transportation on its war vessels from Buenos Aires to Gallegos and return, and offering to place at its disposal a smaller vessel for use in researches among the islands.

SCIENTIFIC NOTES AND NEWS.

GRANTS FROM THE BRITISH ASSOCIATION FOR SCIENTIFIC RESEARCH.

As we have already noted, the British Association appropriated at the Toronto meeting £1,350 (more than \$6,500) to committees for