

(see *Science*, April 15), set out last week. Dr. Bell will prosecute his researches in Hudson Bay, the south-west shore of which will be examined by Messrs. Low and J. M. Macoun. Professor Macoun will visit the little-known interior of Vancouver Island, principally for botanical purposes. The surveys of Mr. Bowman in the Cariboo gold-fields and the Selkirk range will add considerably to our knowledge of the geography of that district. Messrs. Tyrrell and Dowling will proceed to Duck and Riding mountains to examine the eastern outcrop of cretaceous rocks, and Messrs. Lawson, Smith, and Barrow will survey the boundary-line east of Rainy Lake. The rest of the parties will prosecute mainly geological work in the eastern parts of the Dominion.

Dr. R. A. Philippi gives an interesting report, in *Ausland* of April 11, of an ascent of the volcano Licancaur, which is situated on the eastern boundary-line of the Chilean province Antofagasta. Former attempts to reach the summit of the mountain have been unsuccessful. Two engineers, Muñoz and Pizarro, attempted to reach the summit of the mountain, which is between eighteen and twenty thousand feet high, in order to make some trigonometrical observations. They experienced, however, so severe attacks of the *punar* (the difficulties of respiration in the rarified atmosphere), that they were prevented carrying out their intention. Their companion, Don José Santelices, succeeded in reaching the summit, and gives the following description: "The 16th of March we reached a tambo on the north-west side of the mountain. These are houses which form a single room with a low stone bank: they were built by the Inkas at regular intervals on their roads. While part of the company could not ascend much farther on account of the rarified air, the guide and myself reached the summit after nine hours' climbing. We descended into the crater, the bottom of which is formed by a plain about thirteen hundred feet in diameter, in which a beautiful pond, four hundred feet long and three hundred and fifty feet wide, is situated. It may be about five hundred feet below the rim of the crater. On its banks there are large stone walls of the houses in which the Indians used to live. There may be about thirty of these. There was a great quantity of fuel which had been carried there by the ancient Indians. An old road of the Inkas, which led to the summit, can still be recognized." Philippi remarks that these houses were probably used by a garrison for watching the approach of an enemy, and for giving signals by lighting the wood. Similar piles of wood have been found on all mountains of that district. Philippi supposes these enemies were

the Peruvians, at the time when they made war upon the brave and warlike Calchaquis, who lived in the district of Salta, which belongs at the present time to the Argentine Republic. J. J. Tschudi was probably the first to suggest that the Calchaquis retired to the oases of the Atacama desert, in order to escape the oppressions of the Inkas. This hypothesis is very probable, as the Atacama language is spoken nowadays in some parts of the province of Salta. However, it is not impossible that the Peruvians used these piles of wood for giving notice of the progress of their conquest to Cuzco. Anyhow, the fuel found on the mountains was carried there about four hundred years ago.

NOTES AND NEWS.

THE papers read at the April meeting of the National academy of sciences were as follows: 'On chemical integration,' T. Sterry Hunt; 'Results of the investigation of the Charleston earthquake,' C. E. Dutton and Everett Hayden; 'On some phenomena of binocular vision,' Joseph LeConte; 'The vegetation of the hot springs of the Yellowstone park,' W. G. Farlow; 'On the forelimb and shoulder-girdle of Eryops, and on the vertebrates of the triassic,' E. D. Cope; 'On the rainless character of the Sahara,' Elias Loomis; 'The color of the sun,' and 'A new map of the spectrum,' S. P. Langley; 'Chemical constitution and taste,' 'On a new class of compounds analogous to the phthaleins,' and 'On the decomposition of diazo compounds by alcohol,' Ira Remsen; 'On the ancestry of the deaf,' and 'On the notation of kinship,' A. G. Bell; 'On the determination of orbits of planets and comets,' J. W. Gibbs; 'On the serpentine of Syracuse, N.Y.,' G. H. Williams; 'On the barometric oscillation, diurnal and annual,' A. W. Greely; 'On Floridian geology,' W. H. Dall; 'On the Taconic system of Emmons,' C. D. Walcott; 'Is there a Huronian group?' R. D. Irving; 'On the brain of the *Ceratodus*, with remarks on the general morphology of the vertebrate brain,' B. G. Wilder; 'Outline of the ichthyological system,' Theodore Gill; 'The effect of magnetization on the electrical resistance of metals,' Arthur W. Wright.

— The coast-survey telegraphic longitude parties of Assistants Smith and St. Clair have left for Ogden and San Francisco. Their first work in extending the regular line of standard longitudes of the coast survey will be to connect Salt Lake City with the Franklin Square observatory in San Francisco. When these points are thus connected, the chain will be complete with the Sierra Robblero, New Mexico, near Fort Selden. Assistant

William Eimbeck will continue the transcontinental triangulation from Mount Nebo, near Salt Lake, and is expected to reach that station about May 20. Assistant James B. Baylor has completed his season's work of three months, having occupied twenty-three magnetic stations between Key West and Washington. For absolute measures of declination, dip, and intensity, this is considered good work for stations covering so large an area. In connection with the physical and hydrographical survey of New York bay and harbor, a much-needed work is now progressing, which consists in running a line of precise spirit-levels from the permanent tide-gauge of the coast survey, at Sandy Hook, by way of Keyport, Staten Island, Newark Bay, across New York harbor and the Narrows, up Long Island, through Brooklyn to Long Island Sound, across East River to Governor's Island, and up the Hudson River to Dobbs Ferry. A detailed topographical survey of the west half of the District of Columbia is now nearing completion, the results of which are to be published in atlas form on a scale of four hundred feet to the inch. The Patterson will leave San Francisco, about May 1, for survey-work in Alaska waters, where she will remain all summer.

— Mr. Carroll D. Wright, chief of the U. S. bureau of labor statistics, is now in Massachusetts, collecting statistics as to marriage and divorce in the United States. It will probably be a year before the data can be prepared in the form of a report. The bureau has considerable work in progress at present. The report on convict-labor will be issued in about three weeks. The report on labor-strikes will be ready this fall. Another subject of inquiry now in progress is in relation to the moral and economic condition of working women and girls in the great cities of the country. The bureau will also make inquiries into the cost of the distribution of food-staples, — how the cost of food is increased by transportation-rates, and other facts bearing on the general subject.

LETTERS TO THE EDITOR.

*.*The attention of scientific men is called to the advantages of the correspondence columns of SCIENCE for placing promptly on record brief preliminary notices of their investigations. Twenty copies of the number containing his communication will be furnished, free to any correspondent on request.

The editor will be glad to publish any queries consonant with the character of the journal.

Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

Ethnologic results obtained upon an expedition in the south-west of the United States.

IN the subsequent columns I have gathered the results which I obtained in the furtherance of ethnologic studies during a three-months' trip in Louisi-

ana, Texas, and the parts of Mexico adjoining the Rio Grande del Norte.

I left Washington City on Oct. 5, 1886, and stopped on my way to the Mississippi only one day, to view the sites of the ancient Alibamu and Creek towns at the confluence of Coosa and Tallapoosa rivers, Alabama. The authors of the eighteenth century report three towns in the vicinity of the French fort Toulouse, — Odshi-apófa (or 'Hickory Ground'), Taskigi, and Okchayúdsi ('Little Okchá-yi').

Accompanied by a guide, I found the French fort, or what remains of it, at about four miles distance from Wetumpka, but several circumstances prevented me from discovering the sites of any of the settlements above named. The authors mentioned give no accurate description of their sites. The whole peninsula is sometimes flooded by high water from the Coosa River, which rises over fifty feet after long rains in the north of Alabama state, and necessarily destroys the vestiges of old habitations; and the country has become overgrown with pine-woods and shrubbery.

At the confluence of Tensaw and Little rivers with Black or Washita River there are four curious mounds in an advanced state of disintegration. One of them is of enormous height, and, as the tradition goes, had once a little pond on its top. According to another tradition, this was the spot where the retreating Natchez Indians defended themselves against the pursuing French troops in 1731. This looks more like the theory of some ambitious archeologist.

Three miles east of Pineville, Rapides parish, La., I then visited the site of a Cha'hta village and cemetery. It lay on the ground which formerly made up Solabella's plantation, and, although the village was abandoned but ten or fifteen years ago, nobody could tell me the Indian name of it. Wherever the chimneys of the cabins stood, there was a little mound or eminence; and upon every grave in the burial-ground stood a plum-tree, which the mourners used to plant to mark the head of the deceased. The main camping-place is now overgrown with horse-mint. The majority of these Indians had gone to a mission in the Cha'hta Nation some time before the secession war, a half-blood Cha'hta chief, Jim Fletcher, having prompted them to go there. Formerly these Cha'htas had annual ball-games with the Biloxis, two hundred of whom inhabited a village on the north-east bank of Red River, thirty miles above Alexandria. The ground is now owned or held by a Mr. Smith, and these Biloxis all went either to the Cha'hta Nation or among the Caddos, Indian Territory.

The Biloxi Indians, whom I saw and studied, live on Indian Creek, five or six miles west of Lecompte, Rapides parish. The unhealthy location of their present abode in the pine-woods, flooded in the rainy season, has of late subjected them to the ravages of fever. There they stay, on the property of Mrs. Martin, and make a living by working for wages. Most of them are small, sturdy people, show no trace of tattooing, and generally speak English more than their native tongue. I studied their language at Lecompte, and found at once that it belonged to the Dakotan or Siouan family. About twelve Biloxis speak or understand it: all the others — fifteen or twenty — know English only. They know nothing about earlier migrations of their tribe,