ing mid-summer the surface waters reach a temperature of 23° C., the bottom waters being 14° or 15°. The lake is at this time in stable equilibrium and the stagnant bottom waters are unfit for most forms of life. But by the end of September the surface has cooled so that a uniform temperature prevails from top to bottom; then gales easily overturn the water body and it slowly cools as a 'homothermous' mass to the winter minimum.

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CURRENT NOTES ON METEOROLOGY.

CLIMATIC CONTROL OF TRANSPORTATION IN NORTHERN RUSSIA.

From a recent book, entitled 'A Northern Highway of the Tzar,' by Trevor-Battye (London, Constable, 1898), there is much of interest to be learned concerning the marked control which the climatic condition of northern Russia in October exert over transportation and over the occupations of the inhabitants. October is known in that region as the Rasputnya season, Rasputnya meaning literally 'the separation of the roads.' At this season 'the first frosts have thawed and the first snows melted,' streams of broken ice block the rivers, the morasses are like quagmires; 'the tracks, where any advance has been attempted upon old forest bog, a mixture of treacle and glue.' There is an almost complete interruption of travel, owing to the condition of the roads and streams, until the settled frost of winter has united the land and the water into one solid frozen surface. "During the whole of October the government postal service is stopped, labor contracts are off, and the keepers of the stages are entirely freed from their usual obligation to supply the traveller with horses and sleighs." The control over transportation, here brought out in one of its aspects, is an important relation of climate and man which has not yet received the careful study it deserves.

KITE METEOROLOGY IN THE ANTARCTIC.

In *Das Wetter* for May, Sprung advocates the use of kites on the proposed Antarctic expeditions, for the purpose of securing accurate data as to the vertical temperature gradient in high southern latitudes. At present the calculation of the pressures at altitudes of 2,000–4,000 meters in these latitudes leads to rather unsatisfactory results, owing to the uncertainty which exists concerning the actual temperatures prevailing there above the earth's surface. By the use of thermographs elevated on kite lines, as has been so successfully done at Blue Hill, it would be possible to obtain accurate temperature data from the free air at considerable altitudes, and these observations could be used in calculating the pressures aloft with a considerable degree of accuracy.

AURORAS IN LONDON FROM 1707 TO 1895.

A recent paper by Mossman, on 'The Aurora Borealis in London from 1707 to 1895,' (*Journal Scottish Meteorological Society*, Nos. 13 and 14, 1897), shows that the maximum numbers were observed in 1848, 1787, 1789 and 1872. Auroras are most frequent in October and April, and least frequent in December and June.

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CURRENT NOTES ON ANTHROPOLOGY.

THE ARCHÆOLOGY OF GUERRERO.

The State of Guerrero lies on the Pacific, directly south of the City of Mexico. Before the Conquest it was peopled by the Mixtecs, who had a picture writing of their own; by the Nahuas, who were in the majority; and by lesser tribes. The Mexican antiquary, Orozco y Berra, writing thirty-five years ago, asserted his belief that within its area would be found one of the oldest sites of the American race (*Geografia de las Lenguas*, p. 239).

Especial interest, therefore, attaches to

Mr. William Niven's archæological researches in that State. A sketch of them is given in the periodical *Modern Mexico*, for May, 1898. I have previously referred to his article on Omitlan (SCIENCE, December 10, 1897). West of Chihihualco he found ruins of a similar character, that is, built of stone with firm cement, on all the prominent ridges and hills. He also describes a cave containing old deposits of skeletons, some of the skulls singularly deformed by artificial means. A complete investigation of such relics is much to be desired.

THE QUICHE LANGUAGE.

THIS language is spoken in western Guatemala, and is a dialect of the Maya stock. For archæologists it has peculiar interest, as the ancient Quiches were quite civilized, and their mythology has been preserved in the remarkable 'Popol Vuh,' or National Book, edited by the late Abbé Brasseur de Bourbourg.

For these reasons, students will be pleased to learn that the British and Foreign Bible Society has published in Guatemala a translation of the Gospel of St. Mark into the tongue, the Spanish and Quiche being printed in parallel columns. The translation was made, I understand, by Mr. F. de P. Castells, agent of the Society, or under his supervision. Ordinary type is used, the phonetic values of the letters being sometimes from the Spanish, sometimes from the English, and the gutturals indicated by compound consonants or by different fonts.

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SCIENTIFIC NOTES AND NEWS.

IMPORTANT VERTEBRATE FOSSILS FOR THE NATIONAL MUSEUM.

PROFESSOR O. C. MARSH has recently transmitted from New Haven to the Director of the United States Geological Survey the fourth large instalment of Vertebrate Fossils secured in the West, in 1882–92, under his direction, as Paleontologist of the United States Geological Survey in charge of Vertebrate Paleontology. The collection is packed in one hundred (100) boxes, and weighs over thirteen (13) tons. In accordance with law, the material will be deposited in the National Museum. This collection includes twelve sculls and other remains of the gigantic *Ceratopsia* from the Cretaceous; various *Dinocerata* fossils from the Eocene; a series of rare specimens of *Brontotherium*, *Elotherium*, *Miohippus* and other genera from the Miocene; a very extensive collection of Rhinoceros and other mammals from the Pliocene, as well as various interesting fossils from more recent deposits.

The other important collections of vertebrate fossils secured by Professor Marsh in the West for the Geological Survey, and previously transferred to the National Museum, may be briefly enumerated as follows:

(1) Seventy-two (72) large boxes of Pliocene fossils, weighing about 7,500 pounds, were transferred December 31, 1886, and were stored in the Armory February 8, 1887. The record of these boxes is on file in the office of the Geological Survey, and the Smithsonian numbers of the boxes are 6,601–6,672.

(2) Thirty-three (33) large boxes (weighing 6,960 pounds), of rare vertebrate fossils, ready for exhibition, were transferred July 17, 1891, and were placed in a case specially prepared for them in the National Museum, before the opening of the International Congress of Geologists held in Washington that year.

(3) Forty-three (43) large boxes (weighing 4,380 pounds) of Pliocene vertebrate fossils were transferred April 17, 1896.

These various collections, with other smaller consignments transferred to the National Museum (255 boxes in all, with a total weight of over 20 tons), were secured under the special direction of Professor Marsh, as Paleontologist of the United States Geological Survey in charge of vertebrate paleontology, during 1882–92. The remaining collections thus made, and still at New Haven, will be sent to Washington as soon as their scientific investigation, now in progress, is completed.