

the members through the Palæontological Galleries, and gave most interesting demonstrations of many of the more remarkable fossils. Dr. Henry Woodward and Prof. Morris were also present, and did all in their power to interest the visitors. Afterwards the Club adjourned to the Exhibition Galleries, Cromwell Road, where General Pitt-Rivers, F.R.S., gave a demonstration of portions of his Anthropological Museum, particularly dwelling upon the developmental ideas underlying the inception and arrangement of that unique collection. The two meetings were entirely successful, considerably over 100 Members and friends being present.

THE additions to the Zoological Society's Gardens during the past week include a Macaque Monkey (*Macacus cynomolgus* ♂) from India, presented by Miss Richards; two Common Marmosets (*Hapale jacchus*) from Brazil, a Silky Hangnest (*Amblystampa holosericeus*) from Buenos Ayres, presented by Mr. George Jacobs; a Puffin (*Fratercula arctica*), British, presented by Miss Lane; a Smooth Snake (*Coronella levis*), British, presented by Mr. Wm. Penney; twenty-five Madeira Snails (*Helix maderensis*), four Undated Snails (*Helix undata*) from Madeira, presented by Mr. George French Angas, C.M.Z.S.; a Diana Monkey (*Cercopithecus diana* ♂), a Talapin Monkey (*Cercopithecus talapin* ♀), a Water Chevrotain (*Hyomoschus aquaticus*) from West Africa, two Green-billed Toucans (*Ramphastos dicolorus*) from Guiana, a Yellow-lored Amazon, (*Chrysotis xantholora*) from Central America, two Maguari Storks (*Dissura maguari*), an Orinoco Goose (*Chenalapex jubata*) from South America, a Common Night Heron (*Nycticorax griseus*), European, a — Monitor (*Monitor*, sp. inc.) from Africa, purchased; two Little Bustards (*Tetrax campestris*), European, deposited; a Radiated Fruit Cuckoo (*Carpococcyx radiatus*, from Sumatra, received on approval.

OUR ASTRONOMICAL COLUMN

COMET 1882 a.—The following elements of the comet discovered in America on March 18, have been calculated by Mr. Hind from observations on March 19, 22, and 25, the first telegraphed from America, the two others made at the Observatory of Kiel:—

Perihelion passage 1882, June 12^o07195 G.M.T.

Longitude of Perihelion	52 6 31	} App. Eq.
„ ascending node	204 59 31	
Inclination	73 42 44	
Log. perihelion distance	8.870371	

The heliocentric arc described between the extreme observations is only 33°, and the orbit is therefore to be regarded as a first approximation. Another orbit calculated by Dr. Oppenheim from observations on March 19, 23, and 27, gives the epoch of perihelion-passage, June 16^o5818 G.M.T., and the log. least distance 9.07186. It is evident, therefore, that the comet will greatly increase in brightness as it draws near to the sun, and we may look for a naked-eye object a fortnight or so before perihelion. The elements, however, will not be well determined in this case, without a much wider extent of observation.

Dr. Oppenheim finds the following places for Berlin midnight. We are indebted for them to Prof. Krueger, the editor of the *Astronomische Nachrichten*:—

	R.A.			Decl.	Log. distance
	h.	m.	s.		from Earth.
April 6	18	28	53	+44 43.4	... 0.2500
7	—	31	14	45 29.4	
8	—	33	41	46 16.2	
9	—	36	13	47 3.9	
10	—	38	50	47 52.5	... 0.2323
11	—	41	32	48 42.0	
12	—	44	21	49 32.4	
13	—	47	16	50 23.6	
14	—	50	19	+51 15.7	... 0.2134

The mean of the above perihelion-distances is less than a tenth of the mean distance of the earth from the sun, and comparatively few comets out of the number calculated have approached

the sun so closely; indeed, between the commencement of the seventeenth century and the present time we find only nine or ten cases that can be relied upon, in upwards of two hundred and twenty which have been computed.

VARIABLE STARS.—Amongst the objects of this class now in a favourable position for observation is one observed on the meridian at Bonn in May, 1864, and rated 9^o; its position for 1855^o is in R.A. 13h. 22m. 58^s., N.P.D. 98° 48' 54". It was 8^h5 on April 16, 1855, 9^h5 on April 30, 1853, and is entered 10m. on Chacornac's Chart, No. 41; on one occasion previous to 1853, it had been noted 8m. On April 5, 1874, it was a faint 9m. It was not observed either by Lalande or Bessel. It is 9m. on Bremicker's chart of the Berlin series. An eighth-magnitude (Santini calls it a sixth) follows about 10' to the south.

Mira Ceti attains a maximum on May 23. A minimum of S Cancri occurs on April 14, at 9h. 9m. G.M.T.

GEOGRAPHICAL NOTES

THE following papers will be read at the German "Geographentag" which will meet at Halle on April 11-14:—On some scientific results of the voyage of the *Gazelle*, particularly from a zoogeographical point of view, by Prof. Studer (Berne); on the progress of our knowledge of Sumatra, by Prof. Kan (Amsterdam); on the alleged influence of the earth's rotation upon the formation of river-beds, by Prof. Zöppritz (Königsberg); on the colonies of Germans and their neighbours in Western Europe, by Herr Meitzen (Berlin); on the historical development of geographical instruction, by Dr. Kropatschek (Brandenburg); on the treatment of subjects relating to conveyance in geographical instruction, by Prof. Paulitschke (Vienna); on the introduction of metrical measures in geographical instruction, by Prof. Wagner (Göttingen); on the relation between anthropology and ethnology, by Prof. Gerland (Strassburg); on the ethnological conditions of Northern Africa, by Dr. Nachtigal (Berlin); on the Polar question, by Prof. Neumayer (Hamburg); on the geographical distribution of Alpine lakes, by Prof. Credner (Greifswald); on the true definition of the development of coasts, by Prof. Günther (Ansbach); on geographical instruction in its relation to natural sciences, by Prof. Schwalbe (Berlin); on the Guldberg-Mohn theory of horizontal air currents, by Prof. Overbeck (Halle); on the systematic furtherance of the scientific topography of Germany, by Herr Lehmann (Halle). The meeting will be combined with a geographical exhibition.

WITH the sixth part of the volume for 1881 of the *Zeitschrift* of the Berlin Geographical Society we have the usual exhaustive Catalogue of geographical literature for the year, including works and papers in all departments of geography, systematically arranged, and covering about 150 pages. No such complete list is to be found anywhere else. Dr. Konrad Ganzenmüller has a paper in this number on the Climate, Flora, and Fauna of the Central Range of the North-West Himalayas. The first part of the *Zeitschrift* for the present year contains papers by Dr. Theo. Fischer, on the Italian Sea-Chart and Maps of the Middle Ages; on the Sierra of Cordoba, by Dr. Wien; on the Antarctic Flora compared with the Palæozoic, by Dr. Joh. Palacky; and on the Cartography of Bolivia, by Dr. R. Kiepert. No. 2 of the *Verhandlungen* of the Society for 1882 contains a long lecture by Herr Buchner on his three years' exploration in South-West Africa.

THE March number of *Petermann's Mittheilungen* contains an account, by Mr. Knipping, of a recent journey through the central mountainous part of the chief island of Japan; a paper on Capt. Gallien's mission to the Upper Niger, 1880-81; an analysis, by Prof. Zöppritz, of Mr. Stanley's thermo-barometric observations on his journey across Africa; and a necrology for the year 1881.

THERE have been several books recently published on Manitoba, to which, at present, there is a great rush of emigrants. As a rule, such books give only the bright side of the emigrant's life and prospects in the colony, and it is difficult to get a perfectly trustworthy account of what the emigrant may expect. Two Manitoba books are before us: one by the Rev. Prof. Bryce, of Manitoba College—for education has been well provided for in Winnipeg already—is mainly historical, giving pretty full details of the Earl of Selkirk's attempts at settlement. Messrs. S. Low and Co. are the publishers. The other modest