

student of geography can obtain the latest geographical information.

DR. A. B. MEYER, of the Royal Zoological Museum at Dresden, has sent us a description of two new birds of paradise from New Guinea. (*Abh. u. Ber. d. K. Zool. u. Anthr.-Ethn. Mus. zu Dresden*, 1894-95, No. 5). One of the birds, shown in its natural size in one of the two coloured plates which illustrate the paper, possesses remarkable characteristics in the form and colour of its plumage, and in the arrangement of two very long feathers which stretch out from the head to about twice the length of the body of the bird. This bird has been named *Pteridophora alberti*, in honour of King Albert of Saxony, and the second one described and figured by Dr. Meyer has been called *Parotia carolee*, after Queen Caroline.

THE seventh volume of the *Proceedings* of the Royal Society of Victoria has reached us. The volume contains twenty-eight papers, many of them illustrated with plates, communicated to the Society during 1894. With two or three exceptions, the papers belong to the domain of natural science. Among the contributions we notice one on Tasmanian earthworms, by Prof. Baldwin Spencer, and a note, by the same author, on two new forms of marsupials obtained in Central Australia, during the visit of the Horn Scientific Expedition to the Macdonnell Ranges. The geology of Castlemaine is described by Mr. T. S. Hall, and geological notes on the country between Strahan and Lake St. Clair, Tasmania, are contributed by Messrs. Graham Officer, L. Balfour, and E. G. Hogg. The older tertiary rocks of Maude, and the palæontology of the older tertiary of Victoria, form the subjects of two separate papers, and a catalogue of non-calcareous sponges collected in the neighbourhood of Port Phillip Heads is given by Prof. A. Dendy. Mention must also be made of a paper, by Mr. R. H. Mathews, on rock paintings and carvings figured by the Aborigines of New South Wales, in caves and rock shelters; and also of one in which Mr. E. F. J. Love gives the results of observations with Kater's invariable pendulum, made at Sydney. The object of this investigation was to throw some additional light on the question of the difference between the values of  $g$  at Melbourne and Sydney. A comparison of the results obtained by the United States Coast Survey officers at Sydney in 1883, with those found by Mr. Baracchi at Melbourne in 1893, has shown that a pendulum beating seconds approximately should lose 8.58 vibrations per day, if transferred from Melbourne to Sydney. Lieut. Elblein found, however, by swinging three of von Sterneck's pendulums at the two places, that the loss was 13.48 vibrations per day. Mr. Love comes to the conclusion that the difference between the vibration numbers at Melbourne and Sydney is 12.2 per day.

THE additions to the Zoological Society's Gardens during the past week include a Sand Badger (*Meles aukuma*) from Japan, presented by Mr. Frederick Ringer; two Polar Bears (*Ursus maritanus*, ♂ ♀) from the Arctic Regions, presented by Mr. John J. Hughes; a Spotted Hyæna (*Hyæna crocuta*, jr.), a Viceriferous Sea Eagle (*Haliaeetus vocifer*), a Black Kite (*Milvus migrans*), from East Africa, presented by Mr. T. E. C. Remington; a Black-backed Piping Crow (*Gymnorhina tibicen*) from Australia, presented by Mr. J. D. Haggard; a Raven (*Corvus corax*) British, presented by Mr. W. Hillary; a Puff Adder (*Vipera arietans*) from East Africa, presented by Dr. A. Donaldson Smith; a Chimpanzee (*Anthropopithecus troglodytes*, ♀) from West Africa, a Common Marmoset (*Hapale jacchus*) from South-east Brazil, deposited; a Purple-breasted Lory (*Eos riceniata*) from Moluccas, a Blue-faced Honey-eater (*Entomyza cyanotis*) from Australia, purchased.

## OUR ASTRONOMICAL COLUMN.

THE MOON AND ATMOSPHERIC WAVES.—Lunar atmospheric waves, or air-tides, as they might be called, can, according to M. Bouquet de la Grye, be distinctly traced in the records of barometric pressure collected at insular stations or stations situated close to the sea, where there are no powerful local disturbances to obscure them. In a contribution to the *Annuaire du Bureau des Longitudes*, he reproduces curves of atmospheric pressure traced at Brest, St. Helena, Cape Horn, Batavia, and Singapore, which distinctly show a regular ebb and flow twice a day in accordance with the position of the moon. The amplitude depends upon the declination of the moon and upon its distance from the earth, and also upon the latitude of the place of observation. The maximum amplitude at Brest is about a quarter of an inch of water, which means a fiftieth of an inch of mercury, a small oscillation indeed, but one which is well within our limits of accurate measurement. At Batavia the maximum heights are half an hour after the passage of the moon through the upper or lower meridian. But the retardation is almost imperceptible in other places. This is probably due to the extreme mobility of the upper strata of the atmosphere, and contrasts with the great retardation experienced by the ocean tides. M. Bouquet de la Grye points out the striking analogy between the ocean tide, with an amplitude of 1 m. under the equator, in an ocean having a mean depth of 5000 m., and the atmospheric tide of 2 mm. of water in a sea of air the weight of which represents 10,000 mm. of water.

STELLAR PHOTOGRAPHY.—A remarkable illustration of the value of photography in astronomical researches is afforded by a recent comparison of one of Dr. Max Wolf's well-known photographs with the same part of the sky as seen with the 36-inch refractor of the Lick Observatory. Prof. Schaeberle finds that an enlarged photograph of the region about Algol, taken with an exposure of five hours, certainly shows stars down to mag. 16.5, assuming that stars of the 17th mag. are at the limit of vision of the telescope. Making due allowance for the loss of detail in the process of enlarging, "it appears probable that practically every isolated star visible at Mount Hamilton can be photographed by Dr. Wolf, at or near sea-level, with his comparatively small telescope." (*Astronomical Journal*, No. 338). The telescope employed by Dr. Wolf has a Voigtlander lens of six inches aperture.

STANDARD TIME IN AUSTRALIA.—The resolution as regards Australian standard time, adopted at Melbourne last October (see p. 278), has come into effect. Queensland, New South Wales, Victoria, and Tasmania are now all using the time of the meridian 150° E., that is, ten hours before Greenwich. Queensland was the first of the Australian colonies to take action, and there the new time came into force on the first day of this year. Mr. H. C. Russell, of Sydney Observatory, has sent us a copy of the Act which established the mean time of the meridian 150° E. of Greenwich as the standard time in New South Wales, on and after February 1. He says that "South Australia has adopted the time of the ninth hour before Greenwich."

NOVA AURIGÆ.—Notwithstanding the enormous velocities in the line-of-sight recorded by the spectroscopes, Nova Aurigæ has given no signs of proper motion, such as can be perceived with the telescope and micrometer. Such, at least, is the result of a comparison of the measurements made in 1894 by Prof. Barnard with those made by the same observer in 1893, and by Mr. Burnham in 1892. (*Ast. Nach.* No. 3279.) The magnitude also remains pretty constant, being 10.5, on the scale adopted at the Lick Observatory. The Nova seems to be too far removed from our system to give any appreciable parallax.

## NEW COMPOUNDS OF HYDRAZINE WITH FATTY ACIDS.

COMPOUNDS of several of the more important organic fatty acids with hydrazine, analogous to the aromatic hydrazides previously prepared, have been obtained by Prof. Curtius and his pupils Messrs. Schöfer and Schwan, and an account of them is published in the current issue of the *Journal für Praktische Chemie*. The hydrazides of the monobasic fatty