

from Australia, presented by Mr. B. C. Parr; a Short-toed Eagle (*Circus gallicus*) from Suez, presented by Capt. H. E. Robbins; a Lacertine Snake (*Calopeltis lacertina*) from North Africa, presented by Mr. R. F. Sibbald; a Rose-crested Cockatoo (*Cacatua moorensis*) from Moluccas, deposited; a Black and Yellow Hawfinch (*Mycerobus melanocephalus*) from Yarkland, a — Pastor (*Sturnia* —) from the Andaman Islands, four Starred Tortoises (*Testudo stellata*) from India, a Tuberculated Iguana (*Iguana tuberculata*) from South America, purchased.

OUR ASTRONOMICAL COLUMN

THE NAVAL OBSERVATORY, WASHINGTON.—The Report of the Superintendent of this establishment, Commodore S. R. Franklin, to the Navy Department, for the year ending October 31, 1884, has been issued. Great stress is laid upon the importance of commencing the buildings for the new Observatory. The present site is stated to be notoriously unhealthy, and the buildings are in a dilapidated state, and, as the ground for the new Observatory has been purchased and the plans made and approved, the Superintendent urges that Congress should be appealed to during the coming session for a portion at least of the funds required for the new Observatory. His estimate "For the purpose of erecting a new Naval Observatory and necessary buildings upon the site purchased under the Act of Congress, approved February 4, 1880," amounts to 586,138 dollars, or approximately 120,000*l.* The 26-inch equatorial was chiefly employed in observations of the satellites of Neptune, Uranus, Saturn, and Mars; in the case of Uranus, the observations were confined mostly to the two outer satellites, and have now been discontinued, as the favourable time for determining the position of their orbits has passed. Since this instrument was mounted in 1873 observations of the faint satellites of the planets have constituted its main work, and the laborious discussion of the observations, with the view to the correction of orbital elements, was commenced in earnest in August 1883, and is now in a very advanced state, particularly as regards the satellites of Saturn. A report from Prof. Harkness, in charge of the work for the Transit of Venus Commission, is appended: the measurements of the negatives obtained at the various stations was completed last August; the number of photographic plates giving satisfactory results is 932 for the northern and 639 for the southern hemisphere. Prof. Harkness enters into details with respect to these measures, and the method of conducting them, for which reference must be made to the report. The Superintendent regrets that the printing of the Washington observations is not so advanced as is desirable, and proposes applying to Congress for a sum of 1000*l.* annually for a few years, in order to bring up work to date, after which a smaller sum would allow of the due publication of the observations.

THE DEARBORN OBSERVATORY, CHICAGO.—The report of the Director of this Observatory, Prof. G. W. Hough, dated June 18, 1884, has been received within the past week. The work with the 18-inch equatorial was confined, as usual, during the previous year to the observations of a few special objects, including Pons's comet of 1812 on its reappearance, difficult double-stars, the planet Jupiter, and the satellites of Uranus. Thirty-two new double-stars, most of which are difficult, were detected. The companion of Sirius was measured by Prof. Hough on eleven nights, and by Mr. Burnham on ten nights, the mean result being

1884.185 ... Position, $36^{\circ}6'$; Distance, $8''.45$.

which, with the observations of recent years, seems to indicate that the period of revolution of the companion is longer than that indicated by theory. The disk of Jupiter was observed on every favourable occasion, and micrometric measures made on the principal spots and markings, including the great red spot first remarked in 1878. With best vision the colour of this object in 1883-84 was "unmistakably a pale pink." The spot is stated to have maintained its size, shape, and outline during the five years it has been observed at Chicago; in this respect experience there has not fully accorded with the impressions of some observers, that the spot had "lost its outline, and become merged in a faint belt on the following end." The most marked change has been in its degree of visibility, but it was seen at

Chicago as long as the planet was observable. Prof. Hough adds that from 1879 to 1883 the spot had a retrograde drift in longitude upon the surface, or, in other words, the apparent rotation of Jupiter was increased from $9h. 55m. 34.0s.$ in 1879 to $9h. 55m. 38.4s.$ in 1883. During the last opposition this drift appears to have nearly ceased. The mean period from September 12, 1883, to June 11, 1884, comprising 660 rotations, is $9h. 55m. 38.5s.$, and the mean for the whole five years of observation is $9h. 55m. 37.0s.$ The report is accompanied by six tinted lithographs of the appearance of Jupiter's disk. Saturn was frequently examined with the view to detecting markings on the rings, but all observations so far in this direction have been negative. While the rings have been sharply defined, and even the boundary of the dark ring well seen, "nothing indicating a division in the outer ring has ever been noticed." This is not in accord with the conclusion of many other observers provided with telescopes of less optical capacity than the Dearborn refractor.

GEOGRAPHICAL NOTES

A SO-CALLED "envoy" of the Mayor of Timbuktu, lately arrived in Paris, has been received by the French President, and introduced to the Geographical Society at its last meeting. On this occasion it was stated that there is no Sultan or military authority in this famous metropolis of Negroland, but only a body of merchants who yearly elect a kind of mayor from amongst themselves. This statement is not quite correct, and, as little is known regarding the internal affairs of the city, the following facts will be acceptable:—For over 200 years Timbuktu has been administered by a "Kahia," a kind of burgo-master, originally appointed by the Emperor of Morocco from the Moorish Andalusian family of Er-Rami some time after the expulsion of the Arabs from Spain. The office became hereditary in this family, and the present Kahia, or "Amir," as he now affects to call himself is Muhammed Er-Rami, whose Negroïd features are the result of long alliances with the surrounding Souh-ray population. He commands little influence, and is practically a mere puppet in the hands of whichever of the rival Arab, Imosharh (Berber) or Fulani (Fulah), factions happens for the time being to have the upper hand. The Imosharhs command the whole district between Timbuktu and Arawán, and their Sheikh or "Sultan," Eg-Tandagumu, seems to draw his chief supplies from the plundered caravans passing through his territory. The Arabs, as in the time of Barth, are still ruled by the head of the illustrious El-Bekay family, a branch of the Kuntza tribe, whose present chief is Sheikh Abadin. His policy has long been to side with the Fulani, whose power here, as elsewhere in the Western Sudán, is constantly on the increase, and who threaten to become absolute masters of Timbuktu unless this place falls into the hands of some European power advancing from the west or penetrating up the Niger valley from the south.

ACCORDING to the *Turkestan Gazette*, Dr. Grishimailo, the traveller and entomologist, has concluded his investigations into the natural history of Turkestan for the present. He began his travels in the Fergana Valley, and from thence he went into the Altai region, which he examined thoroughly. In the course of the summer he visited Osch, Arawan, Nankat, Utch-Kurgan, Shahimardan, Karakazyk, Koku, Tekelik, the River Balykty, Karamuk, and Zanku; on his return he visited Karamuk, Jirgetal, Sarzbulak, Kok-u, Altyumazar, and went on foot through the Trans-Altai Mountains to Bordooba and Karakul. The geological collections are very considerable. In lepidoptera alone there are 17,000 specimens, amongst them being many new kinds. The expedition was also a success from an ethnographical and anthropological point of view. Many heights were measured and thermometrical observations made throughout the whole journey. The traveller met many evidences of the existence of a glacial epoch in Central Asia: amongst these are mentioned the presence of forms in Thian-shan, which hitherto have only been found in Labrador, Greenland, Lapland, and the Swiss Alps. Next year Dr. Grishimailo contemplates visiting the western offshoots of the Thian-shan range, because this locality has never yet been examined thoroughly from a geological point of view.

At the last meeting of the Geographical Society of St. Petersburg, M. Beliafsky made a communication respecting the journey which he undertook in order to explore the central road