

THE additions to the Zoological Society's Gardens during the past week include a Sable Monkey (*Cercopithecus albigenus* ♀) from East Africa, presented by Mr. C. N. Wylie; a Beatrix Antelope (*Oryx beatrix* ♀), an Indian Gazelle (*Gazella bennetti*) from Arabia, presented by Lieut.-Colonel Talbot; a Goshawk (*Asur palumbarius*), European, presented by Captain Noble; a Common Quail (*Coturnix commutis*), European, presented by W. K. Funnell; a Hybrid Goose (between *Anser anser* and *A. brachyrynchos*), captured in Holland, presented by Mr. F. E. Blaauw, C.M.Z.S.; a Gould's Monitor (*Varanus gouldii*), a Stump-tailed Lizard (*Trachydosaurus rugosus*) from New South Wales, presented by Mr. T. Hellberg; a Chub (*Leuciscus cephalus*), British fresh waters, presented by Mr. H. E. Young; two Yaks (*Bos taurus grunniens* ♂ ♀) from Tibet, three Gigantic Salamanders (*Megalogobatrachus maximus*) from Japan, deposited; an Azara's Agouti (*Dasyprocta azarae*), a Pucheran's Hawk (*Asturina pucherani*), a Sulphury Tyrant (*Ptilangus sulphuratus*), two Short-winged Tyrants (*Machotornis rixosa*) a Brown Mibvago (*Mibvago chimango*), an Orange-billed Coot (*Fulica lacustris*), a Cayenne Lapwing (*Pinnellia cayennensis*), six Rosy-billed Ducks (*Melospiza pepusca* ♂ ♂ ♀ ♀) from South America, purchased; an American Bison (*Bison americanus* ♂) from North America, received in exchange; a Gayal (*Bibos frontalis* ♀), born in the Gardens.

OUR ASTRONOMICAL COLUMN.

THE SOLAR DISTURBANCE OF 1891, JUNE 17.—In the October number of the *Observatory* Mr. H. H. Turner publishes an article on the luminous outburst on the sun observed by M. Trouvelot on June 17, and recorded in these columns on July 9. The disturbance was of such an unusual character that Mr. Trouvelot hazarded the suggestion that it was possibly accompanied by perturbations of the magnetic elements. Mr. Whipple was good enough to look over the few curves to see if they showed any such variations, and a negative result was obtained. Mr. Turner, however, after an examination of the Greenwich records has succeeded in finding "a very minute, though unmistakable, disturbance at almost precisely the time noted by Trouvelot. . . . The disturbance is smaller than many others on the same day, although the day itself was very quiet; but it differs from others in its abruptness, which is clearly shown in all three curves. The change in declination is only about 1', and in H.F. 0.0005 of the whole H.F." Diagrams illustrating these fluctuations accompanied Mr. Turner's paper. It seemed strange that the Kew and the Greenwich records should differ in their indications, so a further enquiry was sent to Mr. Whipple, who replied as follows:—"I have again referred to the curves of June 17, 1891, and fail to find any trace of what can by any means be termed to be a magnetic disturbance at the time in question—accepting Sabine's interpretation of a magnetic disturbance (see *Phil. Trans.*, vol. cliv., p. 274), and so avoiding loose expressions. According to the *Observatory*, October 1891, Father Sigreeves is quite of our opinion as to the cause in point." The evidence in favour of a magnetic disturbance simultaneously with Trouvelot's observation is thus not very strong.

PHOTOGRAPHY OF SOLAR PROMINENCES.—In a communication to the Paris Academy on February 8, M. Deslandres described some new results obtained by him in the photography of solar prominences. The object of the research was to photograph the spectra of prominences further into the ultra-violet than had previously been done. In July of last year, M. Deslandres, following Prof. Hale, succeeded in photographing the spectra to λ 360. He has now been able to obtain negatives upon which the spectrum extends from λ 410 to λ 350. In order to obtain this result, a sidostat with a mirror 8 inches in diameter has been employed to project the sun's image, a Rowland grating has been used to produce the spectra, and the lenses of the observing telescope have been made of quartz. The photographs show eight bright lines of the ultra-violet hydrogen series, and it is believed that observations made from an elevated station would lead to the detection of the remaining two. The line a little more refrangible than hydrogen α (λ 388),

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is also recorded upon the plates. Ph of the spectra of spots and facule. Th often appear bright upon them, and the hydrogen lines. But no new i discovered in this direction of work.

ON THE VARIATION OF LATITUDE.—The *Astronomical Journal* for No. 24 result of a wide discussion indicates axis of inertia about that of rotation radius of 30 feet measured at the ear 427 days.

NON-EUCLIDIAN G.

EVERY conclusion supposes pr themselves are either self-evid demonstration, or can only be estal propositions; and as we cannot contir every deductive science, and especial a certain number of axioms which All treatises on geometry therefore cotion of these axioms. But a distinctio them: some—such as this for example, equal to a third quantity are equal t geometrical propositions, but are a them as analytical *a priori* judgment discuss them. But I must insist on special to geometry. Text-books for very explicitly—

- (1) Only one straight line can be dr
- (2) A straight line is the shortest di
- (3) Only one straight line can be parallel to a given straight line.

Although the demonstration of the generally dispensed with, it would be the other two, and from those, of w considerable, that we admit explicitly I shall explain in the sequel. Efforts have also for a long time b to demonstrate the third axiom, kno *postulatum d'Euclide*. The amount taken in that chimerical hope is t simultaneously, Lowatschewski and B a Russian and Hungarian respective futable manner, that such a demonstra have very nearly rid us of the invent postulates: since their time the A receives annually one or two new dem The question was still not settled made by the publication of the celeb entitled "Ueber die Hypothesen we Grunde liegen." This small treatise of recent works, of which I will ma and among which must be mentione Heilmholtz.

The *Geometry of Lowatschewski*.—If the *postulatum d'Euclide* from the evidently happen that in denying the the axioms, we should be led to would then be impossible to base a c premisses.

But this is precisely what Lowa supposes in the first place that—

"Several straight lines can be draw to a given straight line."

And he moreover retains all the From these hypotheses he deduces a which it is impossible to detect at constructs a geometry the faultless log to that of the Euclidian geometry.

The theorems are, certainly, very which we are accustomed, and they di Thus, the sum of the angles of a tr two right angles; and the difference right angles is proportional to the surf

Translation of an article that appears *Science*, No. 23, by Mr. H. Poincaré.

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