

of the Museum of Natural History at Milan, has been decorated by the Emperor of Russia with the order of St. Ann for his efficient co-operation in the foundation of the institute for "Bachicoltura" at Moscow and Tashkend.

THE scientific expedition to Lake Lob-Nor, sent out by the St. Petersburg Geographical Society, under command of Col. Prjewalski, and to which we have already referred, has yielded most interesting results in every direction and is of particular importance with regard to the exploration of Kashgar. The new details obtained in reference to Lake Lob-Nor are remarkable. The expedition continued its way from Korla, following the course of the Tarim River down to its confluence with the Rokala Darja. On their way to the Lob-Nor the travellers passed the ruins of three cities. Lake Lob-Nor is of a marshy nature; its length is some 100 kilometres, by only 20 kilometres breadth. Col. Prjewalski explored the western and southern shores, and through the current of the Tarim River reached the middle of the lake. There the shallowness of the water and impenetrable vegetation prevented further progress; almost the whole surface of the lake is thickly covered with reedy vegetation. The inhabitants of the Kara Kurchintz district, on the shores of Lake Lob-Nor, are on the lowest step of civilisation. They live along the shores as well as on islands in the lake, in miserable huts constructed of reeds and branches twisted together. The whole of their possessions are their clothes, which barely cover their nakedness and are made of the fibres of a kind of lake weed, their nets, and their canoes, which are hollow trunks of trees. Metal objects, such as knives, hatchets, &c., are extremely rare among them. Col. Prjewalski, besides his ethnographical results, has collected rich materials for ornithological investigations. He reports that it is impossible to conceive the enormous number of migratory birds which, on their journey from southern countries to the north, or *vice versa*, select Lake Lob-Nor as a halting place. At present the Russian traveller has wended his way southward and is engaged in the exploration of Tibet.

IN an interesting paper, published by M. Ph. Plantamour in the December number of the *Archives des Sciences Physiques et Naturelles* (Geneva), regarding the earthquake experienced in the immediate neighbourhood of the Lake of Geneva on October 8 last, the author proves most conclusively that the phenomena known under the name of "Seiches," and consisting in occasional and sudden alterations in the level of the lake, have nothing whatever to do with upheavals or depressions in the bed of the lake. During the earthquake referred to, not the least movement of the surface was perceptible, and had an alteration of only one millimetre taken place in the level, the instruments employed by MM. Plantamour and Forel, which continually register these alterations, would have most certainly shown them. The explanation of these "Seiches," therefore, is still a matter of considerable uncertainty, and it even remains to be seen whether barometrical pressure has any influence upon them or not.

Two enterprising men in Paris, a merchant and a doctor of medicine, whose names will be surely blessed by future generations, have made the valuable discovery that the different elements contained in sea-water are infallible preservatives against all possible diseases, and at the same time are never-failing remedies against existing illnesses. These two philanthropists have therefore not only issued a seductive prospectus and widely circulated it in France and abroad, but have also prepared a large quantity of hygienic products, such as bread, biscuits, dry cakes of all descriptions, liqueurs, &c., which are all prepared with sea-water, and are endowed with the most marvellous healing properties. In the prospectus it is stated distinctly that the use of these preparations renders all other medicines or medical treatment unnecessary. There is only one little point

which requires explanation. The "inventors" state that their preparations are made with distilled sea-water; we would ask them what becomes of the mineral and organic matter contained in sea-water during this distillation? But *mundus vult decipi!*

THE additions to the Zoological Society's Gardens during the past week include a White-handed Gibbon (*Hylobates lar*) from the Malay Peninsula, a Brown Monkey (*Macacus arctoides*) from Burmah, presented by Mr. W. H. Newman; two Black Francolins (*Francolinus vulgaris*) from India, a Chukar Partridge (*Caccabis chukar*) from North-West India, presented by Major Newton Pauli; four Common Marmosets (*Hapale jacchus*) from Brazil, deposited; two Rough Terrapins (*Clemmys punctularia*), a Scorpion Mud Tortoise (*Cinosternon scorpoides*) from Trinidad, purchased.

CERTAIN MOVEMENTS OF RADIOMETERS¹

THIS morning (Dec. 20) I received from Mr. Crookes an account of the behaviour of a kind of radiometer which he was so good as to construct at my suggestion. The consideration of an experiment mentioned in a paper of his presented to the Royal Society, which will shortly be read, and which he has kindly permitted me to refer to, suggested to me the desirability of investigating the effect of mere roughness of surface, all other circumstances being alike, and the disc of the radiometer being metallic, so that the two faces may be regarded as practically at the same temperature. Mr. Crookes's experiment, above referred to, led me to suspect that mere roughness might increase the efficiency of a surface, and I suggested to him some experiments with heated glass shades, or with a hot poker presented to the radiometer, the bulb being covered with a cool tumbler to defend it from being heated by the rays easily absorbed by glass. The result in every case answered my expectation; and it may be stated shortly that the law of the motion is that when the fly is hotter than the bulb the rough surface is repelled, or, say, the motion is positive; when cooler, negative.

I subjoin Mr. Crookes's memorandum of the results of experiment:—

"Aluminium Radiometer (1326), one side of the vanes being ruled closely with a sharp knife.

- "1. Exposed to standard candle three inches off. Continuous positive rotation (ruled side repelled) at rate of $3\frac{1}{4}$ revolutions a minute.
- "2. Exposed to non-luminous flame of a Bunsen burner three inches off. Continuous positive rotation at the rate of $7\frac{1}{2}$ turns a minute.
- "3. The Bunsen burner removed. The positive rotation gradually diminished till it stopped. No negative rotation.
- "4. The bulb heated with Bunsen burner. Good negative rotation; then stopped, and rotated positively till quite cold.
- "5. Bulb covered with a cold glass shade, and a large red-hot ring applied round equatorially. Positive rotation, but not very strong.
- "6. On removing the shade and ring the positive movement soon comes to rest.
- "7. Covered with a hot glass shade, negative rotation, with positive rotation on cooling (the same as 4).
- "8. Plunged into hot water. Negative rotation.
- "9. Removed from the hot water, and immediately plunged into cold. Positive rotation."

Results nearly identical were obtained with another radiometer described as "silver radiometer (1327), one side coated with finely divided silver, electro-deposited."

We must accordingly recognise three distinct conditions under which motion may be obtained in a radiometer, namely, (1) difference of temperature of the two faces, as in a pith radiometer, coated on one face with lampblack; (2) more favourable presentation of one face than the other, as in a radiometer with curved disks; (3) roughness of surface on one face (if this be really different from 2). These three conditions may be variously combined so as to assist or oppose each other, as the case may be, in producing motion.

¹ Paper read at the Royal Society, December 20, by Prof. G. C. Stokes, Sec. R.S. Continued from p. 175.