

accompanied Capt. Carter on his journey with the three Indian elephants in 1879, meant for the use of one of the Belgian expeditions. In his paper Mr. Rankin gives full details of the conduct of the elephants up to Mpwapwa, where their troubles began. Although they were severely attacked by the Tsetse, no permanent evil effect seems to have followed. At Mpwapwa, indeed, a report was sent to the King of the Belgians, in which it was stated that the elephant experiment was a complete success, on account of their immunity against Tsetse, their ability to live on the uncultivated food of the country, and to march over all kinds of ground. A few days after the report, however, the largest elephant suddenly died. Mr. Rankin attributed its death to insufficient food and over-work. In India it had been stall-fed; in Africa it never seems to have had enough to eat—the back-bones of all these stood six or seven inches from their flanks at Mpwapu. It is clear also that their loads were far beyond what they had been accustomed to. As is known, the other elephants subsequently died. This experiment cannot be considered a fair one, though the lessons it taught will be of service in any future attempt to utilise the animal as a beast of burden in Africa.

A HYDROMOTOR recently invented by Herr Fleischer of Kiel, for propulsion and steering of vessels, acts (we learn from Wiedemann's *Beiblätter*, 3) by pressure of steam on water, in a cylinder, forcing out the water as a jet below. A float on the water in the cylinder works, in a simple way, the opening and closure of the valves for admission and escape of the steam, and the vacuum produced by condensation of steam in a condenser opens valves for readmission of water. The hot water layer, which forms on the liquid surface, and the wooden lining of the cylinder, reduce the condensation during expulsion of the water to a minimum. A comparison of the working of the author's vessel with that of the *Water-witch* and *Rival* (also propelled by hydraulic reaction) showed that while the kinetic energy of the expelled water was in the *Water-witch* 31.5 per cent. of the indicated quantity of steam, and in the *Rival* 26.3 per cent. in the (so-called) "hydro-motor" it was 89 per cent. Herr Flischer, in a recent *brochure*, investigates the physics of his motor.

If those members of the Quekett Microscopical Club who intend to be present on the occasion of the opening of Epping Forest by Her Majesty on Saturday next, the 6th inst., will communicate with the Hon. Sec. of the Quekett Microscopical Club, 7, The Hill, Putney, S.W., he will do his best to find places for their accommodation.

WITH reference to our notice of "Through Siberia" (vol. xxv. p. 582), the Rev. H. Lansdell writes that in the List of Illustrations at the commencement of vol. i. he acknowledges the sources whence they are taken; and with reference to the photograph of a "Buriat girl" he states that he bought the photograph, in the Buriat country, of the man who took it, that the girl was known even by name to his local friends, and that he has every reason to believe she was a pure Buriat and not a metis.

THE additions to the Zoological Society's Gardens during the past week include a Rhesus Monkey (*Macacus erythraeus* ♂) from India, presented by Mrs. Lamprey; a Chinese Tiger (*Felis tigris* ♂) from China, presented by Mr. G. Brown; two Bauer's Parrakeets (*Platyercus zanarius*) from Australia, presented respectively by Mr. J. Charlton Parr, F.Z.S., and Miss Eva Maitland; a Mississippi Alligator (*Alligator mississippiensis*) from Florida, U.S.A., presented by Master Bennett; a Slow-worm (*Anguis fragilis*), British, presented by Mr. Poyer Poyer; two Axolotls (*Siredon mexicanus*) from Mexico, three European Pond Tortoises (*Emys europaea*), five Carpathian Scorpions (*Scorpio carpathicus*) from Italy, presented by Mr. T. D. G.

Carmichael; a Black-backed Piping Crow (*Gymnorhina tibicen*) from Australia, deposited; two Common Squirrels (*Sciurus vulgaris*), British, two Green-horned Parrakeets (*Nymphicus uvaensis*) from the Island of Uvea, Loyalty group, purchased; a Black-backed Kaleege (*Euplocamus melanotis*) from Sikkim, received in exchange; a Hybrid Paradoxure (between *Paradoxurus larvatus* and *Paradoxurus leucomystax*), two Variegated Sheldrakes (*Tadorna variegata*), bred in the Gardens. The following insects have been exhibited in the Insect House during the past month:—Butterflies: *Papilio podalirius*, *Anthocharis cardamines*, *Araschnia levana*, *Thais polyxena*. Moths: *Deilephila euphorbia*, *Characampa elpenor*, *Sphinx pinastri*, *Saturnia pyri*, *S. carpini*. Silk Moths: *Attacus roylei*, *Actias selene*, *A. luna*, *Telea polyphemus*. The insects have, with few exceptions, been very good specimens.

OUR ASTRONOMICAL COLUMN

THE PRESENT COMET.—The following orbit of the comet discovered by Mr. Wells on March 17 has been calculated by Mr. Hind from the Harvard College and Albany observations on March 17, and observations by Prof. Tacchini at the Collegio Romano in Rome on April 6 and 21; the small corrections were taken into account:—

Perihelion passage, June 10^h 69852 M.T. at Greenwich.

Longitude of perihelion	53 47 46 ^h 3	} From mean equinox 1882 ^o .
" ascending node	205 8 2 ^h 6	
Inclination	73 57 47 ^h 2	
Logarithm of perihelion distance	8.796420	
Motion—direct.		

Hence the positions for Greenwich midnight will be—

	R.A.	Decl.	Log. distance from Earth.	Sun.
	h. m. s.	° ' "		
May 4 ...	21 19 11	+71 31' 3"	9.9870	0.0670
5 ...	21 36 12	72 19 0		
6 ...	21 54 57	73 1' 5"	9.9793	0.0502
7 ...	22 15 27	73 37 7"		
8 ...	22 37 35	74 6 4"	9.9724	0.0324
9 ...	23 1 9	74 26 4"		
10 ...	23 25 49	74 36 9"	9.9664	0.0134
11 ...	23 51 6	74 37 1"		
12 ...	0 16 22	+74 26 4"	9.9612	9.9932

If the intensity of light on March 19 be taken as unity, the intensity on May 12 is 15^h 6.

The perihelion distance is given by different computers as follows:—

Kreutz—observations to April 7	0.06343
Lamp " " 9	0.06123
Oppenheim " " 11	0.06459
Hind " " 21	0.06258

From the above elements it will be found that at the ascending node the comet makes a close approach to the earth's orbit, the distance being only 0.0048, or, assuming 8^h 848 for the solar parallax, 443,500 miles, roughly twice the distance of the moon. The ascending node is passed on July 11, but the earth will be far from that point of her orbit.

THE SO-CALLED *Nova* of 1848.—There does not appear to be any recent notice of the magnitude of this object, though the last published observations by Dr. Julius Schmidt in 1868 showed that it had not sensibly changed for some years. It was slightly over 13m. Its position for 1880^o is in R.A. 16h. 52m. 46^h 5s., N.P.D. 102° 42' 26". Webb in the last edition of his "Celestial Objects for Common Telescopes," p. 356, says: "colour very fine, 1875," but this note must surely refer to some other object, the *Nova Ophiuchi* of 1848, having been too faint for years past to show striking colour. Perhaps some reader of NATURE may be able to state what is its present degree of brightness. There are two stars having the following positions with reference to *Nova* which may assist its identification.

11m. ...	Angle 249° 4	Distance 7' 55"
10.11m. ...	" 144° 5	" 8' 51"

It follows a 9m. Lalande-star 14^h 7s., and is 18' 22" north of it. In 1874 it was below the twelfth magnitude.