

# THE READER.

21 JANUARY, 1865.

the direct current which results from the derivations, and which passes through the spirals towards the axis, ought also to be derived from them, and as it is not enfeebled by its passage, it should augment the intensity of the current which flows through it. Lastly, the quantity of uncovered wire which can be used for a given magnet is greater than that of covered.

We shall, doubtless, at once hear of some experiments disproving or supporting M. du Moncel's; in the latter case the method he points out should be immediately acted upon.

## ENCKE'S COMET.

WE announced last week the approaching return of Biela's comet. We have now another ephemeris to print which may be useful to those who may be armed with powerful instruments. The ephemeris, which is an approximate one, has been computed by Mr. Farley from the elements as given below, which are those in No. 1326 of the *Ast. Nachrichten*, with approximate perturbations by Venus, the Earth, Mars, Jupiter, and Saturn, to near the time of approaching perihelion passage.

Oh G. M. Time.	R. A.	Decl.	Log. of Dist. from Earth.	Mer. Pass.
Jan. 22 23 16 30	23 16 30	+5 17 2	0.3183	3 9
24 23 18 50	2 30 8	2 30 8	4145	3140 3 3
25 23 21 12	2 45 4	2 45 4	4147	3096 2 57
26 23 23 37	2 59 6	2 59 6	4147	3050 2 32
27 23 26 6	3 14 6	3 14 6	4146	3003 2 47
Feb. 1 23 28 28	3 30 2	3 30 2	4144	2956 2 41
2 23 31 15	3 45 2	3 45 2	4140	2907 2 36
3 23 33 53	4 0 2	4 0 2	4134	2858 2 31
4 23 36 38	4 15 6	4 15 6	4128	2808 2 26
5 23 39 25	4 30 4	4 30 4	4120	2756 2 21
6 23 42 16	4 45 5	4 45 5	4110	2703 2 16
7 23 45 10	5 10 0	5 10 0	4099	2649 2 11
8 23 48 8	5 33 0	5 33 0	4087	2594 2 6
9 23 51 8	5 55 4	5 55 4	4073	2538 2 1
10 23 54 13	6 18 2	6 18 2	4058	2480 1 56
11 23 57 24	6 40 5	6 40 5	4041	2421 1 52
12 0 0 32	6 53 3	6 53 3	4023	2361 1 47
13 0 3 57	7 14 5	7 14 5	4003	2299 1 42
14 0 7 19	7 36 3	7 36 3	3981	2235 1 38
Mar. 1 0 10 44	7 58 5	7 58 5	0.3968	0.2170 1 33

Epoch and Mean Equatorials, 1865, May 25 0 Mean Time at Greenwich.

Mean Longitude . . . . .	0 1 28
Longitude of Perihelion . . . . .	128 3 50
Longitude of Asc. Node . . . . .	324 33 3
Inclination . . . . .	13 3 50
Angle of Excentricity . . . . .	57 48 40
Mean Daily Motion . . . . .	1074 10'
Log. of semi-axis Maj. . . . .	0.345075

## LIVE PORPOISE IN THE ZOOLOGICAL GARDENS.

AFTER several ineffectual attempts, the authorities of the Zoological Gardens have succeeded in adding to their collection a porpoise, which seems likely to become a permanent denizen of their attractive gardens. The present specimen was captured by some fishermen at Deal about a fortnight since, and safely transported to London by railway under the care of Tennent, the Society's Keeper, who has been employed in all former experiments of the same nature. When received at the Gardens, the porpoise was much bruised about the face and eyes, probably from attempts to escape during capture, and at first refused to feed. He has, however, improved by degrees, and now takes his meals regularly. These consist of live eels, which he catches for himself, and herrings and other fish which are supplied to him by his keeper at the end of a fishing-rod.

Owing to his delicate state of health, the porpoise has as yet only been permitted to receive the visits of a privileged few; but in the course of a few days we believe he will be open to public inspection, and will no doubt attract a host of admirers.

## SCIENTIFIC NOTES.

THE Mexican Scientific Commission held a meeting on the 29th ult., under the presidency of the Minister of Public Instruction, when several interesting communications were laid before it. Amongst them were several from Col. Doutraine, 'On the Natural History and Archeology of Mexico,' and one from M. l'abbé de Bourbourg, who is busy exploring Yucatan. He reports the discovery in a private library at Merida of an ancient manuscript vocabulary of the Maya language, of which he is about to forward a copy to France. Dr. Coindet sent a Memoir on the 'History of Medicine in Mexico,' and Dr. Jacob an account of a disease in the nasal fosse, caused by the sting of a certain insect. M. Boussingault

presented a very interesting report on the *pulque*, a favourite Mexican drink, obtained from the juice of the agave, which when fermented was found to contain a very large quantity of alcohol. The agave grows freely in the driest situations. At this meeting a somewhat important decision was arrived at, viz., to publish immediately a valuable series of Mexican documents, which are now in the hands of M. Aubin, a member of the Commission, and who is willing to hand them over to the Government. They are the fruit of ten years' labour on the part of M. Aubin. M. Duruy complimented the commission on the progress already made. The decree for its organization was only signed in February last, but instructions had been issued for the explorers, fifteen of whom had already been despatched to different parts of Mexico; forty correspondents had been appointed, some in Central America, some in Europe; and a volume of *Archives*, containing the results already achieved, was nearly ready for publication.

M. FERD. KELLER writes to M. Lubbock announcing that horns of the Reindeer have been discovered at Schaffhausen.

M. FOUCAULT was elected on Monday last a member of the Mechanical Section of the Paris Academy of Sciences.

At the anniversary meeting of the Royal Academy of Sciences of Belgium, which took place a few weeks back, Dr. Spring read a paper on 'The Human Remains from Engis and Chauvaux.' After paying a tribute to Professor Schmerling, whose discoveries remained unknown, or at least unnoticed, for a quarter of a century, he went on to sketch the probable history of the early ages of our globe as revealed by the most recent researches in geology, ethnology and archaeology. He concluded with the following words: 'My principal object in this discourse has been classification. The discussion which has taken place amongst the scientific men of Europe in consequence of the recent researches on the antiquity of man, renders it desirable that I should put you in a position to compare the discoveries made in other countries with those evidences which have been yielded by our own. The order of succession of the different periods of the stone age is, then, as follows:—1. *The Pre-glacial or Mythologic Age*. Man coexisted with *Elephas meridionalis*, and in general with the large reptiles who survived the tertiary periods. To this division belong the human remains of St. Priest and possibly those of Denise. 2. *The Post-glacial or Heroic Age*. A race of men with skulls of the dolichocephalic type was contemporaneous with the great pachyderms and the cave-bears. The rivers were not then confined to their present channels, and the British Isles were still continuous with the continent of Europe. Scandinavia was covered with glaciers. The remains found at Engis, Moulin-Quignon, Clichy, Kent's Hole, Brixham, &c., belong to this period. 3. *The Diluvial or Troglythic Age*. During this age the volcanoes of Central Europe were extinct, and the seas and rivers occupied their present position. To this period belong the human remains found at Chauvaux near Namur, the cave-dwellers of Central France and the Pyrenees, the older lake-dwellings of Switzerland and Ireland, and the men of the 'Kjökkenmøddinger' of Denmark. 4. *The Mixed or Celto-Germanic Age*. Weapons and utensils of stone are found intermingled with those of bronze and iron. As examples of the remains of this age we may cite the worked stones from the alluvial beds of the provinces of Hainaut and Namur, and those from the tumuli of Mecklenburg, Denmark, Great Britain, &c. The inhabitants of the lake-dwellings of East Switzerland, &c. belong also to this period.'

The Committee appointed by the British Association for the Advancement of Science, at the meeting held at Bath last year, for preparing forms for the registration of visible objects on the moon's surface, and for the construction of an outline map of four times the area of that of Beer and Mädler, has so far proceeded with the work intrusted to its charge as to have adopted three working Forms which are intended to aid in the determination of the positions of lunar points and to record data for the formation of a catalogue of lunar objects. Mr. Birt is now engaged in recording in Form No. 1, which has been drawn up for the reception of general observations of the moon, his observations since March 1859, including an extensive series of the crater 'Plato,' applying to each object that has come under his notice its appropriate symbol as mentioned in a prior article. These symbols of reference indicate the particular sheet of Form No. 3 in which the object is to be entered. This form contains columns showing its position, extent, height, depth, brightness, and alignment, with a brief description

of it, also its synonyms, and references to existing authorities by whom it may have been mentioned or delineated. Form No. 4 is intended to aid in the computation of the position of lunar objects (the second order). The results of Beer and Mädler's measures (the first order) of 919 objects will be given in Form No. 3 under the head of Co-ordinates, and differential measures will be taken between Beer and Mädler's objects and others whose co-ordinates have not yet been determined; Form No. 4 being one of computation for determining selenographical latitudes and longitudes. It has been decided that the map shall be (as Beer and Mädler's) on the orthographic projection, but of 75 inches diameter, divided into meridians and parallels of 1° apart. The co-ordinates X and Y of each object will be separately computed, and the objects themselves laid down on the map from the co-ordinates so determined. Nearly 500 objects (by no means identical with the 400 in Webb's list, or with the 500 numbered on Lohrmann's map, or with those specially designated by names in Beer and Mädler's map) have been symbolized, and are now in progress of entry in Form No. 3. The large accumulation of data in Form No. 3 is essential for the utility of the catalogue and the accuracy of the map.

THE Chilean Government has decided to adopt the French metrical system after the 1st of June of this year.

THE *Nouvelliste de Rouen* reports the discovery of a case of cow-pox in the cow, a circumstance of somewhat rare occurrence. It appears that Dr. Paul Levasseur, a physician of the town, was consulted by a young woman, a milkmaid, in the employment of a farmer at Petit-Quevilly, whose arm and hand were swollen and covered with pustules. In reply to Dr. Levasseur's enquiries she stated that she had noticed pustules of a similar nature on the udders of the cows. A deputation of the vaccine committee, consisting of the leading medical men of the town, proceeded to the farm. An examination of the animals showed at once that it was a genuine case of cow-pox, and a large quantity of the virus was collected both from the arm of the patient and from the cows. The girl had, it appears, been recently vaccinated in her infancy. The *Nouvelliste* adds that no authenticated case of this kind has been noticed in that neighbourhood for twenty-five years. In the year 1828 the enquiries of the National Vaccine Board in this country failed to discover a single instance of it.

## SCIENTIFIC CORRESPONDENCE.

THE 'BRITISH QUARTERLY' AND DARWIN.

ALLOW me to call the attention of your readers to a very gross attempt, in the last number of the *British Quarterly Review*, to mislead the unscientific public. At p. 143, in an article on the 'Supernatural,' after disposing of Hume, Strauss, Baden Powell, and such small fry, in a few lines each, the reviewer claims physical science as his ally, and calls into the witness-box 'the geologist' (one of a type now happily almost extinct), who, he says, will tell us that again and again the special interference of a Creator has been required, and who finally 'will tell you that this same "development" or "origin of species by natural selection" is an unblushing intruder into the domain of science, unlicensed and unrecognized.' This, however, is not strong enough. The model 'geologist' is sent down, and a new witness is specially called in a note, which is so 'unblushing' that I give it entire.

'Let us hear a word on the subject of development from one who has won scientific laurels by a life of study and thought:—"All the great living and recently deceased masters of physical science reject it. Does it appeal to anatomy and physiology? Cuvier, Owen, and Carpenter cry out against it. Does it evoke the aid of chemistry? Berzelius, Turner, and Liebig see its shallowness. Does it call on zoology for aid? Agassiz and Ehrenberg can refute its claims. Does it search the archives of geology for support? Sedgwick, Miller, Lyell, and D'Orbigny can show how certainly it will fail. Or, finally, does it appeal to botany? Hooker and Lindley, Torrey and Gray, know that it will certainly glean nothing to sustain it in that flowery field. The fact is that it is only here and there a second-rate naturalist will sympathize at all with such dreamy views." (Dr. E. Hitchcock, in "Bibliotheca Sacra," vol. xi. p. 789.) We do not think anything in this extract unwarranted, even though Mr. Darwin has added his name to the roll of non-theistic theorists; for though he is distinguished as a naturalist in the department of

21 JANUARY, 1865.

observation, his book exhibits philosophic abilities of the lowest order. Nothing can be more significant than his entire abandonment of geology; nothing more foolish than the supposition that some strata are so lost that no trace of them can be found; and nothing more unscientific than to help his theory to take its absurd shape out of the barely possible but utterly unknown.

Either the writer of this article knew that at least four of the persons here mentioned—Carpenter, Lyell, J. Hooker, and A. Gray—so far from rejecting or crying out against 'development' and 'the origin of species by natural selection' are its strongest supporters, or he did not know it. He is, therefore, either imposing a deliberate and wilful misstatement on the public, or he is incredibly ignorant of the subject he is writing upon. Again, when he talks of Darwin's 'entire abandonment of geology,' does he know that almost all the great modern geologists are converts to his views? and when he stigmatizes Darwin's work as 'foolish' and 'absurd,' does he know that John Stuart Mill has adduced it as one of the most wonderful examples of logical reasoning extant?

It is hardly worth while to break such a fly upon the wheel, but it is well to make known as widely as possible to what weak subterfuges those who attempt to stem the flood of modern thought with the worn-out theological mop are at last driven.

A. R. W.

## PROCEEDINGS OF FOREIGN ACADEMIES.

## BERLIN.

ROYAL ACADEMY OF SCIENCES.—Nov. 3, 1864.—Professor Braun read a paper 'On the Australian species of *Marsilea*.'

Nov. 10.—Professor Ranke communicated a memoir 'On Bishop Burnet and his History of his Own Times,' and a long and elaborate paper by Dr. Kettler was read 'On the Dispersion of Light in Gases.'

Nov. 14.—M. Kronecker read a paper 'On the Different Factors of the Discriminant of Elimination Equations.'—Professor Peters described 'A new species of Tree-Viper (*Athyris polylepsis*) from Liberia,' and accompanied his description with short characters of the three other known species of that West African genus.

Nov. 17.—Professor Dove communicated papers 'On the Form of the Isometals in North America,' 'On the annual Barometric Curve of the Arctic Zone,' 'On the Lingering of Heat in the Winter-night of the Polar Regions,' and 'On Isolation in the Southern Hemisphere.'

Nov. 24.—M. Weierstrass read some 'Observations on the Singularities of Algebraic Curves,' and a note was communicated 'On the Double Refraction of Light in resounding glass-rods' by Dr. Kandt. Professor Dove also read an 'Observation on Colour-blindness.'

Nov. 28.—Professor Buschmann read the conclusion of his second memoir 'On the Numerals of the Sonoric Languages.'

## PARIS.

ACADEMY OF SCIENCES.—Jan. 9.—Among the mathematical papers read were the following: M. Clebsch: 'On a property of curves of the order  $n$ , with  $\frac{n(n-3)}{2}$  double points.' M. Laguerre: 'General theorems on plain algebraical curves.'—M. Zaliwski: 'New demonstration of the theorem of the square of the hypotenuse.'—Several theorems of crystalline refraction were demonstrated by M. Cornu.—One of the new comets and sun-spots formed the subjects of two notes presented by M. Chacoma. We shall return to the sun paper.—The Abbé Laborde described a new and easy method of spectrum analysis.—M. Martins read a paper on the rainfall of Montpellier last month, and another meteorological paper of some importance on the nocturnal and diurnal inversions of temperature to the currents of the atmosphere and its distribution from the horizon to the zenith, by M. Poey. We hope to give an abstract of this also.

M. De Saint Venant concluded a memoir, the first part of which was presented in 1857, on the transversal impulse and resistance of bars, rods, and elastic beams.—A case of scorbutic disease in a gorilla was described by M. Béranger-Feraud.—A second note on the metamorphoses of marine crustacea was presented by M. Gerbe, and M. Dareste made some observations on the development of the chick at low temperatures. Below 33° C. no development took place, from 30° to 24° it proceeded very slowly, and the embryos died early in the shell; many of them were monstrous, some of them with anomalous heads, some with two hearts: these anomalies were of frequent occurrence in the same embryo.

A paper on the connection between the lactiferous vessels of plants and the fibro-muscular system was read by M. Trécul.—Some interesting experiments on the action of the spleen were communicated by MM. A. Estor and C. Saintpierre. It is concluded that the spleen and stomach work alternately.—The Colts of nephrite found occasionally in Switzerland were described by M. G. de Mortillet, and he maintains that they are not, as M. Desor and others maintain, products of early Eastern art, but are made of small siliceous veins found in serpentine.—M. Liog communicated a paper on an allied subject—the inhabitants of caves and pile dwellings and their instruments. He maintains that in Venetia he has discovered vestiges of the Autochthonic tribes which peopled Europe before the immigration of the Aryas. In the cavern of Lumignano, at a depth of ten feet, he has found flint implements very similar to those discovered at Perigord, fragments of pottery, a needle-shaped bone, and a small round perforated object in glazed clay. In another cave very near he has also found, associated with flint implements, teeth, jawbones, and bones of the great fossil bear, the bones being generally broken. The complete description of the spoils will be given in the forthcoming volumes of the Memoirs of the Venetian Institute. The pomona of the cave dwellings consists of nuts, acorns, and *Cornus mas*; the fauna of *Sus scrofa ferus*, and of other varieties of *Sus*, *Bos urus*, *Cervus elaphus*, *Cervus capreolus*, *Canis vulpes*, *Euzia lutaria*. The marrow bones are all broken.

M. de Quatrefages remarked upon the presence of the fossil bear, and he thinks, with M. Mortillet, that the contemporaneity of the bear with the ancient people may be contested. He thought also that the difference between the remains of *Sus* found might be of race and not of species, a distinction which should be more borne in mind in palaeontological researches than it is at present.

## REPORTS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.—Jan. 10.—Dr. J. E. Gray, F.R.S., in the chair.

The Secretary called the attention of the meeting to the fine male example of the Manchurian Deer (*Cervus manchuricus*) in the Society's Gardens, which had been received from Mr. Swinhoe, and read an extract from a letter from Mr. Swinhoe, giving further details respecting this animal.

Dr. Crisp made some observations on the anatomy of the Water Ousel (*Cinclus aquaticus*), with reference to its mode of feeding and to its power of remaining under water.

Dr. Crisp also called attention to and exhibited specimens of the os penis of the Chimpanzee (*Trogodytes niger*), and of the Orang (*Simia satyrus*), remarking that the existence of this bone in these two species had not been before observed.

Mr. Francis Day read the first part of a Memoir on the Fishes of Cochin, on the Malabar Coast of India. The present communication, which was devoted to the *Acanthopterygii*, enumerated upwards of 120 species of this order as having been collected or observed by the author in Cochin, amongst which were several considered to be new to science. Mr. Day's notes embraced many particulars as to the times of year at which the various species were met with on the coast of Cochin, and the uses to which they were put by the natives.

Mr. St. George Mivart read some Notes of the Myology of the Green Monkey (*Cercopithecus sabaeus*), in which the conditions presented by some of those muscles which shew such interesting variations in the Order Primates were recorded.

Dr. Gray gave a notice of an apparently new form of whalebone Whale, proposed to be called *Eschrichtius robustus*, founded on a specimen stranded on the coast of Devonshire, in 1861, portions of the skeleton of which had been obtained for the British Museum by Mr. Pengelly.

Dr. Gray communicated a Revision of the family *Mustelidae*, founded on the specimens contained in the collection of the British Museum. This group of carnivorous animals, according to Dr. Gray's present arrangement, contained forty-seven species, divisible into twenty-three genera, ten of which were stated to be peculiar to the New World.

Mr. G. Freer Angus read descriptions of ten new species of Mollusks, chiefly from the Australian seas.

A paper was read by Messrs. H. Adams and G. F. Angus, entitled 'Descriptions of Two New Species of Shells in the Collection of Mr. G. French Angus.'

Two communications were read from Mr. W. Harper Pease, Corr. Mem. The first of these

consisted of a note 'on the Synonymy of *Sistrum cancellatum*.' The second contained descriptions of a new species of Mollusk of the genus *Laticrus*, together with remarks on other species of the same genus inhabiting the Pacific Islands.

Mr. Alfred Newton communicated descriptions of two new species of birds from the Island of Rodriguez, which he proposed to call *Foudia javiciana* and *Drynasa rodericana*. These birds had been discovered by Mr. Edward Newton, during a recent visit to Rodriguez, and were stated to be the only two indigenous land-birds existing in the island.

Dr. Baird communicated the description of a new species of Entozoon of the genus *Bothridium* of De Blainville, from the intestines of the Diamond Snake of Australia.

BRITISH ARCHEOLOGICAL ASSOCIATION.—Jan. 11.—Mr. N. Gould, V.P., in the chair. Messrs. Wm. Watson, R. L. Pemberton, T. C. Thompson, and J. S. C. Rennie, were elected associates.

Mr. Gordon Hills, in the absence of Mr. F. J. Baigent, laid upon the table a series of drawings, seventeen in number, of the paintings, ornaments, &c., recently discovered on, and erased from, the walls of the Church of the Hospital of the Holy Cross, near Winchester. Mr. Baigent's paper in illustration will be read at the next meeting.—Mr. Blight exhibited rubbings of two sepulchral crosses found in the churchyard of Abergele, North Wales. They are referable to the thirteenth century, and between two and three feet in height. One bears the representation of a sword with a globose pommel, the grip cross-shaped, and a horizontal guard.—Lord Boston exhibited a coffin of English workmanship of about the close of the fifteenth century, composed of stout iron plates, pannelled by strips of the same metal, secured by round-headed rivets. The keyhole is in front, shut in by a hinged strap with a spring. It weighs twelve pounds.—Dr. Palmer sent an account of the restorations made in the Church of St. Nicholas Newbury, and of various fragments of stone, portions of sedilia, and two mason's line-pins, &c., therein discovered. Dr. Palmer also exhibited some antiquities found in the neighbourhood, consisting of the nether stone of a quern in lava, a ring crowned and bearing the letter R, a heart-shaped locket with engraved profile of Charles II., a small obelisk pendant of black slate, and a waterpot for a bird-cage, glazed and decorated with brown quilling of the date of the seventeenth century.

Mr. Henry Thompson exhibited through the Treasurer a gold iconographic ring with representation of the Trinity, and a motto, *De bon cuer*. It was found together with a great of Edward III., &c., with a skeleton and coffin at Framlingham. He also exhibited some gold coins:—a quarter noble of Edward III., a sovereign of James I., a double crown of Charles I., guinea of Anne, and a quarter moidore of John V. of Portugal. The double crown of Charles appeared to have been used as a touch-piece by the king for the cure of the evil, on which practice a discussion took place between Dr. Pettigrew, Mr. Thomas Wright, Mr. Cumming, and others, tracing the origin of the superstition from the time of Edward the Confessor, as recorded by William of Malmesbury. Mr. Thompson also produced two religious medalets of the sixteenth and seventeenth centuries, representing Saints Peter and Paul, the crucifixion, &c.

Mr. W. D. Haggard exhibited four fine impressions of the portrait of William Henry Duke of Gloucester, from paintings by Sir G. Kneller and J. Murray, engraved by J. Smith.—Mr. George Wright exhibited a coin of Ptolemy, met with at Ancona, and a leaden bull of Pope John XXII., found at Maidstone, Kent.

ANTHROPOLOGICAL SOCIETY.—Jan. 17.—Mr. J. F. Collingwood, V.P., in the chair. The following new members were elected: Lieutenant-Colonel the Hon. John Stanley, Dr. M. C. Furnell, Messrs. C. W. Eeles, D. W. Nash, W. Salmon, E. Goadby, D. Sydenham, G. Seymour, R. Younge, and F. H. Hobler.

Local Secretaries.—Faundo Carulla, Buenos Ayres; Captain Edward Stamp, British Columbia; George Nesbitt, Newcastle-on-Tyne; W. T. Pritchard, Birmingham; Professor W. Macdonald, St. Andrew's, Fife.

The following papers were read:—

1. Mr. E. Sellon, 'On the Linga puja, or Phallic worship of India.' He directed attention to the worship of Phallus, or Linga puja, which still prevails, and has prevailed in so many ages in India and elsewhere. Mr. Sellon remarked that the adoration of the Lingam in that vast continent of Asia, unlike the more subordinate, and in some re-