

has offered to allow the Oldham Corporation to have care of it, and make a charge to visitors, the money to be applied towards a public museum. No doubt the Corporation will accept this handsome offer.

At the Rheims meeting of the French Association M. Gariel will give a public lecture on Radiant Matter, with Mr. Crookes' experiments, and M. Perier on the Law of Selection. The meeting of 1881 will be held at Algiers, and an excellent paper has been published in connection therewith by M. Macarthy, president of the Society of Natural Sciences of Algiers. This physicist settled in Algiers thirty years ago, and holds the position of librarian of the National Library of Algiers; in his *brochure* he reviewed all the different topics which might be submitted to the several sections of the Association.

A VIOLENT shock of earthquake occurred at Manila and throughout the Island of Luzon on July 18, which did immense damage, totally destroying several government buildings and other houses. Some of the native inhabitants were killed, but no Europeans suffered any injury. A slight shock was felt also on the 17th inst.

On July 14 the French Chamber of Deputies adopted a proposition of M. Lockroy, that a sum of 3,700,000 francs originally intended to rebuild the Palace of the Tuileries should be devoted to enlarge the national library, which will be quite isolated from other houses. The sanction of the Senate will be asked next session, but not a single representative having objected, the result is not dubious, and preparatory steps will be taken very shortly to execute this great measure of preservation and improvement.

In an interesting article on "Mistakes about Snakes," by Mr. Arthur Stradling, in the *Field* of the 17th inst., the author gives an *exposé* of the famous Indian basket trick, in which a boy is shut up in a basket and apparently put to death by sword-thrusts, but suddenly appears among the company uninjured. The narrative is too long for quotation, and we recommend our readers to obtain a perusal of the original.

THE following is the title of the essay to which the "Howard Medal" of the Statistical Society will be awarded in November, 1881. The essays to be sent in on or before June 30, 1881. "On the Jail Fever, from the earliest Black Assize to the last recorded outbreak in recent times." The Council have decided to grant the sum of 20% to the writer who may gain the "Howard Medal" in November, 1881. Further particulars or explanations may be obtained from the Assistant Secretary, at the office of the Society, King's College entrance, Strand, London, W.C.

M. HERVÉ-MANGON, the director of the Conservatoire des Arts et Métiers, has compiled a catalogue of the celebrated Vaucanson collection; it will be very shortly placed at the disposal of the public in the Portefeuille Industriel, a special library opened in the Conservatoire for the communication of designs and documents relating to industry. The course of public experiments is attracting an unprecedented number of visitors to the galleries. Every week a programme of the exhibits is posted on the walls outside the buildings.

THE Manchester Scientific Students' Association is a busy society, as its Report for 1879 shows. It contains reports not only of various lectures and papers read at its meetings, but interesting accounts of the numerous excursions made by the members; these are occasionally illustrated, the illustrations being sometimes rather rude.

SUPPLEMENT No. 5 to the U.S. *National Board of Health Bulletin* contains a report of the proceedings at a conference on

Vital Statistics held at Washington on May 6 last. There is an interesting discussion on the subject of a Standard Nomenclature, with special reference to that adopted by the Royal College of Physicians of England; and appended is a very detailed nomenclature of ophthalmology and otology, by Dr. S. M. Burnett, of Washington.

AMONG the papers in the forthcoming number (vol. iii, No. 1) of the *American Journal of Mathematics* are the following:—"Regular Figures in n -Dimensional Space," by W. J. Stringham; "On the Algebra of Logic," by C. S. Peirce; "On the General Equations of Electromagnetic Action, with Application to a New Theory of Magnetic Attraction, and to the Theory of the Magnetic Rotation of the Plane of Polarisation of Light," by H. A. Rowland; "On Certain Ternary Cubic-form Equations," by Prof. Sylvester.

THE additions to the Zoological Society's Gardens during the past week include a Rhesus Monkey (*Macacus erythraeus*) from India, presented by Mrs. C. Salvin; a Common Badger (*Meles taxus*), British, presented by Mr. Frank G. Haines; a Huanaco (*Lama huanacos*) from Bolivia, a Common Rhea (*Rhea americana*) from South America, presented by the Marquis of Queensberry; a Common Paradoxure (*Paradoxurus typus*) from India, presented by Col. Sturt; four Ring-tailed Coatis (*Nasua rufa*) from South America, presented by Lieut.-Col. J. A. Smith, 1st W.I. Regt.; a Common Hedgehog (*Erinaceus europæus*), British, a Greek Land Tortoise (*Testudo græca*), European, presented by Mr. L. C. Brook; two American Darters (*Plotus anhinga*) from Brazil, presented by Mr. Gerald Waller; a Goffin's Cockatoo (*Cacatua goffini*) from Queensland, presented by Miss Bartlett; two Red-legged Partridges (*Caccabis rufa*), two Common Buzzards (*Buteo vulgaris*), European, presented by Mr. W. H. St. Quintin; a Common Heron (*Ardea cinerea*), European, deposited; a Common Seal (*Phoca vitulina*), British Seas, two Japanese Pheasants (*Phasianus versicolor*) from Japan, a Bar-tailed Pheasant (*Phasianus reevesi*) from North China, purchased; a Burchell's Zebra (*Equus burchelli*) from South Africa, received in exchange; two Lions (*Felis leo*), an Eland (*Oreas canna*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE COMET OF 1668.—There is one point in the history of this comet which we do not remember to have seen mentioned since its supposed reappearance in 1843 revived the attention that was directed to it early in the last century, and it is one which, if accepted, bears materially upon the question of identity. Pingré has no reference to it in the account of the comet of 1668 in his "Cométographie." In the report of the observations made by the French Jesuit Valentin Estancel at San Salvador, in the *Philosophical Transactions*, No. 105 (1674, July 20), which is stated to be a translation from the *Giornale de' Letterati*, No. 9, published at Rome in September, 1673, we read after the description of the evening observations commencing March 5, 1668:—"It may be taken notice of that a month before, upon a report that a comet had been seen towards the morning in the horizon of the rising sun, and certain Carmelites that live upon a hillock of the said town having affirmed that they had observed it several times, our P. Estancel began to doubt whether the comet he saw were not the same which, more swift than the sun, according to the succession of the signs, might within that time have got clear of the solar rays; and his suspicion grew the stronger because the head was then turned towards the sun and the tail towards the west, opposite to the same." But if the comet of 1843 were in perihelion near the time which Henderson found it necessary to assume in order to satisfy the indications of his Goa chart, it would not have preceded the sun in the first week in February, but would have had considerably greater right ascension, so as to be visible only in the evening. Henderson's direct orbit, however, which upon the whole accords much better with his data, would place the comet in R.A. 311°, Decl. $-7\frac{1}{2}^{\circ}$ on February 5, at 17h. San Salvador time, so that it would precede the sun, which was then in R.A. 320°.

If this circumstance is adverse to the identity of the comets of 1668 and 1843 there is another which would rather tend to support it, were it not that there appears to be an oversight in the record. Zach in an article, "Ueber einige unberechnete Cometen, deren Bahnen man vielleicht noch auffinden und berechnen könnte," in vol. xxviii of his *Monatliche Correspondenz*, refers to the comet of 1668, and, after mentioning the observations of Cassini and others, he adds that in the *Philosophical Transactions* for 1668 there is an observation of a comet, which places it on March 7 in longitude 16°, with 20° 30' south latitude, and he asks, "Ist diess die *Cassinische Spina*?" referring to the title of the tract in which Cassini gave his observations of the phenomenon in March, 1668, viz: "Spina, Celeste meteora osservata in Bologna, il mese die Marzo 1668" (Bologna, 1668 in fol.). If we suppose the comet of 1843 to have arrived at perihelion February 24^h 28^a, Greenwich time, at 8 p.m., on March 7, its place would have been in longitude 16° 0', with 20° 4' south latitude, as observed, and the agreement gives an importance to the reputed observation, if it could only be traced. It was first remarked by Schumacher (*Astron. Nach.*, No. 484) that the observation mentioned by Zach does not occur in the *Philosophical Transactions*: his words are: "Diese Beobachtung 1668 März 7, Länge 0° 16', südliche Breite 21½ steht nicht in dem von Herrn v. Zach angeführten Bande der *Philos. Transactions* und, wenn das Register der *Phil. Transact.* genau ist, in keinem der ersten 70 Bände." We find on a careful examination of the volumes or numbers of this work containing reference to the comet of 1668 as indicated in Maty's Index, that there is no such observation recorded. There are two articles bearing upon this comet: (1) in vol. 3 for 1668, in No. 35, May 18, 1668—which gives a translation of Cassini's description of its appearance, from the Italian, and a notice of its having been observed at Lyons, Toulouse, Toulon, &c., though not at Paris, and (2) in vol. 9 for 1674, in No. 105, July 20, 1674 (though not occurring in the list of contents to this number on the first page): this second notice chiefly refers to the observations of P. Valentin Estancel in Brazil, taken from *Giornale de' Letterati*, September 31 (*sic*) 1673—a journal printed at Rome.

Perhaps some of our readers may have opportunity of making further search in the libraries for information relating to the comet of 1668, though we are aware that much was done in this direction in 1843. It would be of interest more particularly if the observation which Zach would appear to have somewhere met with, could be traced.

VARIABLE STARS.—The following times of maxima and minima of variable stars during the ensuing two months are extracted from the ephemeris prepared by Prof. Winnecke for the first part of *Vierteljahrsschrift der astronomischen Gesellschaft* for 1880 (15. Jahrgang):—

Aug. 2. S Ursæ maj., <i>min.</i>	Aug. 30. R Comæ.
3. R Leonis.	Sept. 2. U Virginis.
4. S Sagittarii.	3. R Draconis.
11. S Pegasi.	5. W Scorpii.
12. R Sagittarii.	8. R Virginis.
15. V Tauri.	9. R Arietis, <i>min.</i>
16. R Persei.	10. R Vulpeculæ.
18. R Ursæ maj.	16. R Ophiuchi.
21. T Herculis, <i>min.</i>	19. R Camelopardi.
24. S Vulpeculæ, <i>min.</i>	20. T Virginis.
25. S Herculis, <i>min.</i>	20. R Aquilæ, <i>min.</i>
28. R Aurigæ.	21. S Cephei, <i>min.</i>
28. R Sagittæ, <i>min.</i>	21. S Vulpeculæ.
29. S Aquarii.	29. R Bootis, <i>min.</i>

Prof. Winnecke has August 2 for the date of approaching maximum of *Mira Ceti*; the formula in Prof. Schönfeld's last Catalogue gives August 10^h 8; perhaps some reader of NATURE may be able to say, in due course, when the maximum actually occurs. The amount of perturbation by the formula for Epoch 15 = + 37d^h 3.

M. Ceraski of the Moscow Observatory draws attention to an object which evidently deserves close observation. On June 23 he remarked that the *Durchmusterung* star R.A. oh. 49m. 39s., Decl. 81° 5' 6", 7' 5m., increased from 9m. to about 7' 5m. between 17h. 40m. and 19h. 35m. Moscow sidereal time. Carrington estimated this star 7.9. Schwerd observed it four times, and his estimates of magnitude are strongly indicative of variability; thus it is called 8 on December 11, 1827; 6.7 on March 11, 1828; 8 on the following night, and 10 on May 12 in the same year. It is No. 130 in Carrington's Catalogue, the

place for 1855^o being in R.A. oh. 49m. 38^o 9s., Decl. 81° 5' 33". The star was also observed by Lalande in March, 1790, as an eighth magnitude (Fedorenko 145).

BIOLOGICAL NOTES

THE EVOLUTION OF DIBRANCHIATE CEPHALOPODS.—Dr. J. Brock, in the last number of Gegenbaur's *Morphologisches Jahrbuch* (vol. vi. p. 185), gives his reasons for dissenting from von Ihering's conclusions on this subject. He has dissected spirit-preparations of many of the principal genera, and he discusses the evidence derived from the shell, the funnel, the muscular system, the radula, the nervous system, and the vascular excretory and reproductive systems. Three anatomically well-marked phyla or groups of genera are made out, of which the *Cegopsidæ* are the most ancient, and from this group the other two—the *Myopsidæ* and the *Octopods*—are derived. The *Cegopsidæ* he further divides into two groups—the *Ommastrephidæ* and the *Loligopsidæ*, the comparative antiquity of which cannot yet be determined; they are of great interest because they both show important connections with the two other phyla. The *Cegopsidæ* forms are primarily true Belemnites, and later developed into the *Sepia* type, from which stock also the *decapods* with simple horny shells sprang independently. The *octopods*, the most highly differentiated phylum, but with an organisation showing a very early origin, and branching from the main type, afford some evidence of relationship to the type of *Loligopsis*, although they cannot be regarded as having originated from them. Most probably they had a common origin from the primordial dibranchiate form with ten arms. Dr. Brock relies considerably on the oviduct being double in the *Cegopsidæ*, and single (by reduction) in *Myopsidæ*; but unless he can support his theory by more developmental facts it can hardly attain sufficient credit for practical use in classification.

ON A CASE OF APPARENT INSECTIVORISM.—Prof. Baillon, at a recent meeting (April 7) of the Linnean Society of Paris, read the following notes:—*Peperomia arifolia*, Miq., of which the variety *argyreia* is cultivated in so many greenhouses, has the leaves more or less deeply peltate. I have seen stalks on which the peltation on certain leaves was so exaggerated as to show on a cross-section a depth of nearly four centimetres. When the concave stalks take a suitable direction, water, principally that from sprinkling, would accumulate and rest in these receptacles, so well prepared to preserve it. Many small insects would fall into this water and be drowned. Last year, when the season was warm and when the windows of the house were often open, the number of insects was very considerable, and these, soaking in the water, gradually fell into decay, and it was remarkable that there was during this not the least sign of any putrescent odour. Those who believe in the doctrine of insect-eating plants may perhaps in this be led to find an argument favourable to such theories. They will add that the variety of colours so strikingly seen in these leaves constitutes the agent of attraction for the insects to come and be devoured. Three reflections, each of a different sort, here present themselves: 1. Is it not remarkable that the exaggerated peltation of these leaves is in this case accompanied by an apparent insectivorism, and that the leaves of the plants known up to this by botanists as carnivorous owe their sac-like, horn-like forms only to an excessive peltation of their limb, as we demonstrated in the evolution of the leaves in *Sarracenia* (*Comp. rend.*, lxxi. 630)? 2. How can it be considered as a proof of insectivorism, that plants such as the *Urticularia* grow better in a fluid containing albuminoid compounds, when other plants grow equally favourably in the same kind of fluid, which latter are never for a moment thought of as carnivorous? 3. How do the chief priests of our science reconcile the two ideas, that the surface of the leaves of plants are unable to absorb pure water in contact with them, and that the same surface daily absorbs water charged with albuminoid substances and the like?

INTESTINAL WORMS IN THE HORSE.—H. Krabbe has published in the *Overstigt over det K. Danske Videnskabernes Selskabs*, No. 1, 1880, p. 33, an interesting account of the occurrence of intestinal worms in the horse. As this animal is spread over the greater part of the habitable world, and under conditions of life very varied, it might be supposed that, like man and the dog, it would not be equally affected with these parasites, nor with the same species. For to determine with some degree of accuracy the worms which in Denmark are found in the intestinal