

certain industries may be obviated.—The sling psychrometer, by Prof. H. A. Hazen, and the aspiration *versus* the sling psychrometer, by A. L. Rotch. Both papers deal with the comparative merits of the two instruments for balloon observations.

*Wiedemann's Annalen der Physik und Chemie*, No. 2.—Among the papers in this number are the following:—A modified astatic galvanometer, by H. E. J. G. du Bois and H. Rubens. To minimise the effects of disturbing vibrations as producing false oscillations about a vertical axis, the suspended system is given perfect "inertia symmetry" about the axis of the fibre, and all flat parts of it are distributed so as to have equal areas in two mutually perpendicular planes. Quartz fibres are used for suspension.—Bolometric investigations of the grating spectrum, by F. Paschen.—The fundamental law of complementary colours, by Paul Glan. To determine the amount of light absorbed by the pigment of the yellow spot during transmission to the optically sensitive nerves, two candles of equal luminosity were observed with one eye through glasses of various colours, the one direct, and the other at such an angle that its image fell outside the margin of the yellow spot. The candles were shifted till both appeared equally bright, and their respective distances were measured. Taking the coefficient of absorption for red light as = 1, that for yellow (5828) was 0.889, for wave-length 5222 it was 0.171, 4856 (blue) 0.269, and for white light 0.424. In this way the conclusion was arrived at that the intensities of complementary colours reaching the retina must be equal in order to give the impression of white.—Experiences with the self-acting mercury pump, by A. Raps. Several improvements are described, tending to make the working more rapid. It was found that the fear of contaminating the mercury by the use of black flexible india-rubber tubes was unfounded.

#### SOCIETIES AND ACADEMIES.

LONDON.

**Entomological Society**, February 22.—Mr. Henry John Elwes, President, in the chair.—Mr. F. J. Hanbury exhibited, on behalf of Mr. Percy H. Russ, of Sligo, several long and very variable series of *Agrotis tritici*, *A. valligera*, and *A. cursoria*, together with Irish forms of many other species, some of which we believe to be new to Ireland. Mr. W. H. B. Fletcher made some remarks on the species.—Mr. R. W. Lloyd exhibited specimens of a species of *Acarus* found in New Zealand wheat. He stated that Mr. A. D. Michael had examined the specimens, and pronounced them to belong to *Tyroglyphus farinae*, a species which had been known for over a hundred years as a destroyer of corn, and was only too abundant all over Europe, and probably over the temperate regions of the world.—Mr. E. B. Poulton, F.R.S., exhibited, and made remarks on, a number of cocoons of *Halias prasinana*, in order to show the changes of colour produced in them by their surroundings; he also exhibited the coloured backgrounds employed by him in his recent experiments on the colours of larvæ and pupæ, and illustrated his remarks by numerous drawings on the blackboard.—Dr. T. A. Chapman exhibited by means of the oxy-hydrogen lantern, photographs of the larva of *Nemeobius lucina* in its first stage, showing the conjoined dorsal tubercles, each carrying two hairs, which are remarkable in being divided into two branches. For comparison he also showed, by means of the lantern, drawings of the young larva of *Papilio ajax*, after Scudder, and of a portion of a segment of *Smerinthus populi*, as the only instances known to him of similar dichotomous hair in lepidopterous larvæ. Mr. Poulton pointed out that he had described the forked hairs of *Smerinthus* in the Society's "Transactions" for 1885, and that such hairs were even better developed in the genus *Hemaris* originally described, as he believed, by Curtis. Mr. Poulton, also said that he had noticed similar forked hairs covering the newly-hatched larvæ of *Geometra papilionaria*.—Dr. Chapman read a paper—which was illustrated by the oxy-hydrogen lantern—entitled "On some neglected points in the structure of the Pupa of Heterocerous Lepidoptera and their probable value in classification." A discussion ensued, in which Mr. Poulton, Mr. Champion, and Mr. Merrifield took part.—Dr. F. A. Dixey communicated a paper entitled "On the phylogenetic significance of the variations produced by differences of temperature on *Vanessa atalanta*." The President, Mr. Merrifield, Mr. Poulton, Dr. Chapman, and Mr. Tutt took part in the discussion which ensued.

**Zoological Society**, February 28.—Sir W. H. Flower, F.R.S., President, in the chair.—Mr. A. D. Michael exhibited some specimens of the *Toxodes*, known locally in the West Indies as the "St. Kitts" or "Gold Tick," received from Mr. C. A. Barber, of the Agricultural Department, Antigua.—A communication was read from M. A. Milne-Edwards respecting *Lemur nigerrimus*, Sclater, a species of lemur originally described from an example living in the Society's Gardens. It was pointed out that *Prosimia rufipes* of Gray had been based on a female of this species.—Mr. Howard Saunders exhibited and made remarks on a specimen of the American stint (*Tringa minutilla*), shot at Northam Burrows, North Devon, by Mr. Broughton Hawley, in August, 1892.—Mr. Sclater (on behalf of Mr. R. M. Barrington) exhibited a specimen of the Antarctic Sheathbill (*Chionis alba*), killed at the Carlingford Lighthouse, co. Down, Ireland, in December last.—Dr. C. J. Forsyth-Major read a memoir on some of the miocene squirrels, and added remarks on the dentition and classification of the *Sciuridæ* in general. The author proposed a new division of this family into three subfamilies—*Sciurinae*, *Pteromyinae*, and *Nannosciurinae*. The genera *Spermophilus* and *Arctomys* and the allied forms were united to the *Sciurinae*. The last part of the paper dealt with the primitive type of the *Sciurine molar*.—Mr. Henry O. Forbes read a paper entitled "Observations on the Development of the Rostrum in the Cetacean Genus *Mesoplodon*, with remarks on some of the Species." Mr. Forbes showed that in this genus the vomerine canal in the young animal is filled with cartilage, and in the adult with a dense petrosal mesorostral bone. From the examination of thirteen specimens of *Mesoplodon grayi* and four of *M. layardi*, of which he had made a large number of sections in various stages of growth, the author concluded that the mesorostral bone was not, as had been generally believed, an ossification of the cartilage, but an actual growth of the vomer and of the premaxillaries, with perhaps, in some cases, additions from the ossification of the cartilage of the vomerine spout. The cause of the growth in the vomer might be accounted for by the pressure communicated to it by the growth of the premaxillaries, induced, perhaps, by the movement, which appears to take place, of the maxillaries over the premaxillaries.

**Linnean Society**, March 2.—Prof. Stewart, President, in the chair.—Mr. Miller Christy exhibited some photographs of the American bison taken from living wild animals, and gave some account of the present restricted distribution of the species. Mr. A. G. Renshaw and Mr. W. Carruthers detailed what they had been able to learn respecting it while travelling in its former haunts.—Mr. J. M. Macoun gave an account of the flora of the Behring's Sea Islands from personal exploration.—On behalf of Mr. H. N. Ridley the Secretary read a paper on the flora of the eastern coast of the Malay archipelago.—The meeting then adjourned to March 16.

**Anthropological Institute**, February 21.—Prof. A. Macalister, F.R.S., President, in the chair.—A paper, by Mr. E. H. Man, on Nicobar pottery was read. He stated that the little island of Chowra has held for generations a monopoly of the manufacture. Preparing the clay, and moulding and firing the finished utensil, devolves on the females. The value of trade marks is recognised, the device of its maker being affixed to each vessel. Experience having taught them that pots are more serviceable if allowed to harden gradually, they store newly-made utensils on a lattice platform in the roofs of their huts. In a year the heat and smoke render them hard and durable. Indian pots and jars are readily purchased from the traders, who occasionally visit the islands; but they are deemed unsuitable for certain culinary operations. There are no special vessels made for funeral purposes; but, in accordance with the almost universal custom of uncivilised races, cooking pots are among the personal and household requisites which are laid on a grave after an interment.—A paper, by Lieut. Boyle, T. Somerville, R.N., on some islands of the New Hebrides was read. The habits of the natives of adjacent islands sometimes vary exceedingly, and in this paper reference was made only to a small portion of the group, including the Efate Islands, the Shepherd Islands, and the East Coast of Malekula. A child calls all his uncles on both sides, "father," all his aunts, "mother," and his first cousins on both sides, "sister" or "brother." A man cannot marry a woman of his own tribe, and the children belong to their mother's tribe; the property of their father going, at his death, to his sister's children. It sometimes happens that a man will

call a small girl much younger than himself "mother." Circumcision takes place between the ages of five and ten. Till then a boy goes naked; but afterwards he is costumed like the men. When a Malekulan is old and decrepit, he has nothing to look forward to but burial alive. Should an old person become bedridden, or a burden, he or she is told quite simply that his or her burial will occur on such a day. Invitations to the funeral feast are then sent out, and, dead or not dead, on that date the unhappy person is buried.

PARIS.

Academy of Sciences, February 27. M. de Lacaze-Duthiers in the chair.—On the attempt at oyster culture in the Roscoff laboratory, by M. de Lacaze-Duthiers. In April, 1890, a set of seed oysters were introduced into a tank in the grounds of the observatory, which lies opposite Batz Island, in the Channel. They were always submerged, but exposed to tidal changes of level. In a year they had acquired a considerable size, but had not yet "fattened." Last November they had a size and flavour which, in M. Chatin's opinion, surpassed the qualities attained in any other locality along the coast, although in the warmer months preceding (the months without R) they had shared the decline common to all oysters at that period. It was also found that the oysters in the tank acquired longer "beards," and also increased in length, whilst others cultivated on the shores of Batz Island, and often left dry at low water, were more developed in the direction of thickness. As regards reproduction, the results have been fairly favourable, although definite data have not yet been obtained. In one case, where part of the tank water had been pumped into a reservoir used for supplying an aquarium, some embryos were drawn up through the pipes, and fixed themselves on the wooden level-ball, where a colony of about a dozen well-developed oysters was subsequently found, some of which now measure 6 cm. across.—On the exact determination of the pepto-saccharifiant action of the organs, by MM. R. Lépine and Metroz.—On the photographs of the moon enlarged by Prof. Weinek, by M. Faye. These photographs are enlargements by twenty times of some of the Lick photographs of the moon, obtained by an exposure lasting several days. On their being exhibited, several members expressed their opinion that they had been retouched.—On the urea contained in the blood in cases of eclampsia, by M. L. Butte. It is found that in cases terminating fatally the amount of urea contained in the blood is less than in cases of recovery, owing to hepatic alterations, which in the former cases impair the secretion of urea. From the point of view of prognostication, therefore, recovery can be anticipated if the amount of urea is two or two and a half times the normal amount, but a fatal issue if the amount closely approximates to the physiological figure.—On the general problem of integration, by M. Riquier.—On certain differential equations of the first order, by M. Vessiot.—Remarks concerning a preceding note on a generalisation of Lagrange's series, by M. E. Amigues.—Physical properties of fused ruthenium, by M. A. Joly (see Notes).—On Stas's determination of the atomic weight of lead, by M. G. Hinrichs. In Stas's determinations of the atomic weight from the sulphate and the nitrate the weight of substance taken, according to M. Hinrichs, enters as a continuously changing element into the result, owing to a systematic error in Stas's arrangement. In plotting the atomic weights in terms of weight of substance taken, curves are obtained showing a minimum at about 150 gr. The method of averages is therefore inadmissible, and a new method is promised in a forthcoming communication.—On the aldehydes of the terpenes, by M. A. Etard.—On the constitution of hydrated alkaline phenates, by M. de Forcrand.—On the alkaloids of cod-liver oil, their origin and therapeutic effects, by M. J. Bouillot.—On a pathogenic microbe of blennorrhagic orchitis, by MM. L. Hugouneq and J. Eraud.—Crustacea and cirripeds commensal with the Mediterranean turtles, by MM. E. Chevreux and J. de Guerne.—On a terrestrial leech of Chili, by M. Raphael Blanchard. This animal, which has been named *Mesobdella brevis*, forms a link between the Glossiphoniidæ and the Hirudinidæ. Among the latter it approaches most closely the Hemadipsinæ by its mode of living and its ten large black eyes, but differs from the whole family by the great condensation of its somites.—Mineralogical and lithological examination of the meteorite of Kiowa county, Kansas, by M. Stanislas Meunier. The metallic portion presents two principal alloys of iron and nickel, which an attentive study has succeeded in characterising:

Tænite (Fe<sub>5</sub>Ni) and plessite (Fe<sub>10</sub>Ni). In composition it agrees closely with the entirely metallic type called jewellite, but it differs from the latter in structure. Apart from the peridotite portions the mass consists of lamellæ of tænite arranged in bundles which frequently intersect at the angles of the octahedron. The intervals are filled up with plessite which may be distinguished at once by its dark-grey colour, contrasting with the polished steel tint of the other alloy. Some specimens of the meteorite show quite exceptional characters. With the usual structure and cohesion they are formed of opaque black mineral grains cemented by a network of oxidised iron. These have probably been produced by an alteration of the normal specimens, in which the metallic skeleton has been oxidised.

GÖTTINGEN.

Royal Society of Sciences.—From July 27 to December 28, 1892, the following papers of scientific interest have appeared in the *Nachrichten*.—

July.—Drude: Current theories of light practically tested.—Ehlers: On *Arenicola marina*, L. (five pages).—Rhumler: The so-called germ-spherules (Max Schultze) of *Foraminifera* (these are stated to be merely deposits of iron silicates).—Nernst: The change of free energy in the mixture of concentrated solutions.—Hilbert: Third note on algebraical invariants.

September.—Fricke: A general arithmetical principle in the theory of automorphic functions.—Kohrausch: On the influence of time upon solutions of sodium silicates.

November.—Peter: Botanical work in the summer of 1892.—Voigt: On a problem in fluid motion.—Sella and Voigt: The rupture coefficient of rock salt.—Kallius: The neuroglia-cells of peripheral nerves.

December.—Wagner: The third (Peter Apian's) map of the world (1530).

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