## SCIENTIFIC SERIALS

*American Journal of Science and Arts*, April 1876.—Prof. Wright, of Yale College, examined last year the gases obtained at moderate temperature from a stony meteorite of Iowa County; their chief constituent was carbon dioxide. He has further examined several other meteorites of both classes (stony and iron, five of each), and the results, here communicated, confirm his former conclusions. Not only do the stony meteorites give off much more gas at low temperatures than the iron, but the composition is quite distinct. In no case of the latter was the amount of carbon dioxide more than 20 per cent. at 500°, nor than 15 per cent. from the whole quantity evolved, and the volume of carbonic oxide was, in every case but one, considerably larger. In the chondrites, on the other hand, the percentage of carbonic oxide is very small, while the carbon dioxide is (with one slight exception) more than half of the total quantity of gas obtained up to red heat. At a temperature of about 350° it constitutes from 80 to 90 per cent. of the gaseous products, in all cases, while at the heat of 100° it forms somewhat more than 95 per cent. in the two cases examined in this respect. The hydrogen, on the other hand, progressively increases in quantity with rise in the temperature of evolution, and in the last portions given off at a red heat is generally the most important constituent. The evolution of those large volumes of carbon dioxide may be taken as characteristic of the stony meteorites, and its relation to the theory of comets and their trains is certainly of great significance.—Prof. Norton gives a succinct account of researches made with a view to determine the laws of the set of materials resulting from a transverse strain under various circumstances. He studied (1) sets from momentary strains, (2) sets from prolonged strains, and (3) duration of set, and variation of set with interval of time elapsed after the withdrawal of the stress. Some of the results are rather at variance, apparently, with the conception of the ultimate molecule, as made up of a limited number of precisely similar atoms endued with unvarying forces of attraction at certain distances and repulsion at other distances.—According to Prof. Le Conte, mountain ranges are formed wholly by a yielding of the crust along certain lines of horizontal pressure; not, however, by bending of the crust into a convex arch filled and sustained by a liquid beneath, but by a crushing or mashing together horizontally of the whole crust with the formation of close folds and a thickening or swelling upward of the squeezed mass. In an interesting paper he adduces evidence of this from the coast range of California, which is destitute of granite axes, and has been little changed by metamorphism or overlaid by igneous ejections.—Prof. Newcomb criticises somewhat unfavourably the physical theories of climate maintained in Croll's recent work on Climate and Time in their Geological Relations.—Prof. Mallet studies the constitutional formulæ of urea, uric acid, and their derivatives, and in an appendix Prof. Marsh describes the principal characters of the Brontotheridæ, with aid of some excellent plates.

*Mind*, April.—In this number Mr. G. H. Lewes draws attention to the absence of strictly defined technical terms in psychology, and "the deplorable and inevitable ambiguity" which in consequence clouds the discussion of psychological questions. After referring to various senses in which the words sensation, sensibility, consciousness are used, he puts the question: "are all changes in the sensitive organism to be included under the term consciousness, or only some changes?" We believe some psychologists would answer: no changes in an organism ought to be called consciousness.—Prof. W. Wundt of Leipsic contributes a solid paper on "Central Innervation and Consciousness." He accepts physical automatism as flowing from the doctrine of the conservation of energy. "If this principle lays claim to a universal validity, we cannot withdraw from it those movements which we are conscious of only as psychologically caused." What he means by psychological causation is not very clear.—M. Sidgwick's "Methods of Ethics" is ably reviewed by Prof. Bain, who while speaking of the work in terms of highest praise, finds, nevertheless, that justice has scarcely been done to utilitarian ethics, and when Mr. Sidgwick, finding no complete answer to the immoral paradox, "My performance of social duty is good not for me but for others," concludes that our cosmos of duty is in reality a chaos, Prof. Bain thinks that we have here "a sad ending to a great work;" and he proceeds to give a solution of his own, which some may consider little more than a restatement of the difficulty. The next paper is a criticism of Mr. Sidgwick's chapter on "Intuitionalism," by Mr. H. Calderwood, who endeavours to show that Mr. Sidgwick has "largely failed in the attempt to give a clear and fair representation of intuitionalism." The editor, Prof. Croom Robertson, reviews Mr. Jevons's "Formal Logic." He praises the ability, ingenuity, and even success with which Mr. Jevons has laboured to construct a brand-new system, but is compelled at the same time to maintain the superiority of the methods of the traditional logic.—Mr. Shadworth H. Hodgson continues the work of distinguishing between philosophy and science. His present paper, "As Regards Psychology," is delightfully hard reading.—"Philosophy at Cambridge," is treated by Mr. H. Sidgwick.—A short kindly biography of James Hinton is written by Mr. J. F. Payne.—Critical notices, reports, correspondence, &c., make up the number.

*Memorie della Società Spettroscopisti Italiani*, November, 1875.—Prof. Bredichin writes an article on the spectra of certain nebulæ relating how he has adopted the plan of comparing the lines of the spectrum of the nebula with the Fraunhoffer lines of the sun. The spectrum of a Geisler tube of hydrogen is used as an intermediate means of comparison. The mean positions of the lines are 5003·9, 5957·9, 4859·2 respectively. The first two lines agree very closely with the iron lines 5005·0 and 5956·5.—A comparison of the solar diameters as obtained by the spectroscopic and transit methods by Secchi, Tacchini, and Rayet. The mean of the spectroscopic observations gave a diameter 1"·8 less than the latter method.

December 1875.—Father Secchi contributes a note on his researches on the distribution of heat on the solar disc.—Prof. Ricco writes on the perception and persistence of the sensation of colours. He throws a spectrum on a screen by reflection from an oscillating mirror, so that the spectrum is moved in a direction at right angles to its length backwards and forwards, and the shape of the apparent envelope of the coloured band shows that yellow is the most rapidly perceived colour, and the others decrease towards the red and blue.—Prof. Oudemanns writes on a method of heliometric measurement on the occasion of the transit of Venus.—Prof. Fergola writes on the dimensions of the earth, and researches on the position of the axis of figure with respect to the axis of rotation.

## SOCIETIES AND ACADEMIES

### LONDON

**Royal Society**, May 18.—"Picrorocellin," by John Stenhouse, F.R.S., and Charles Edward Groves.

"On the Polarisation of Light by Crystals of Iodine," by Sir John Conroy, Bart., M.A. Communicated by A. G. Vernon Harcourt, Lee's Reader in Chemistry in the University of Oxford.

"Absorption-Spectra of Iodine," by Sir John Conroy, Bart., M.A. Communicated by A. G. Vernon Harcourt, Lee's Reader in Chemistry, University of Oxford.

**Linnean Society**, May 4.—Mr. G. Bentham, vice-president, in the chair.—Mr. G. Dawson Rowley and Mr. G. H. Parkes were elected Fellows of the Society.—Two foreign *savans* were chosen to fill the vacancies caused by death among the honorary members.—Mr. H. Trimen called attention to the photograph of a remarkable example of fasciated inflorescence occurring in *Fourcroya cubensis*, Haw. The specimen, coming under the observation of A. Ernst, of Caraccas, is recorded as 6½ feet high and 4 feet wide.—On behalf of Dr. Anderson there were shown specimens demonstrating the extraordinary diminutive eye of the Indian River Whale (*Platanista gangetica*), which animal to all intents and purposes must be well nigh blind; and likewise specimens of grasses (*Ischæmum rugosum* and *Paspalum scrobiculatum*) obtained from the stomach of the same creature, probably residual digesta of fish eaten by it.—Dr. Cobbold read a paper on Trematode parasites from gangetic dolphins. Three species were lucidly described, viz., *Distoma lancea*, *D. campula*, and *D. Andersoni*. The first of these was procured from the short-snouted Dolphin (*Orcella brevirostris*), a form more frequently captured in the Indian river estuaries. The last mentioned is entirely new to science. It and that immediately preceding (formerly designated *Campula oblonga*) were both obtained by Dr. J. Anderson from different specimens of the fluviatile Cetacean (*Platanista*). The special interest attached to the parasites in question may be thus summarised. 1. The circumstance of being obtained from Cetacean hosts not previously known to be

infested by them. 2. *D. lancea* and *D. campula* have each only once before (forty and twenty years respectively) been seen by any observer, and in either case from a different kind of whale. 3. The localities whence hosts and the Entozoa have been procured being situated regionally thousands of miles apart. 4. Verification of statements based on prior limited data. 5. The completion of our knowledge respecting the morphology and arrangement of all their more important internal organs. The author went on to generalise regarding the aberrance of host not producing departure of parasitic type, the relative periodic frequency and effects of such lowly organisms in wild and domestic animals, and the close alliance of the Planarians to the forms treated.—Mr. W. T. Thiselton-Dyer read a paper on the genus *Hoodia*, with a diagnosis of a new species. He distinguishes three forms, viz., *H. Gordoni*, *H. Currori*, and *H. Barklyi*, and shows that in certain respects the genus *Decabelore* presents a close alliance. In the peculiarities of structure and recognition of parts of the floral envelope of *Hoodia* the author holds opinions diverging from those of Mr. Bentham, who previously had but a limited opportunity of examining this rare and interesting group of African plants.—Mr. W. Duppa Crotch read a paper on the migration and habits of the Norwegian Lemming. Specimens belonging to him and Mr. A. E. Alston, illustrated certain moot points in the economy of these animals.—The Rev. M. J. Berkeley communicated a report on the fungi collected in Kerguelen Island, during the stay of the Transit of Venus Expedition of 1874-5. This section of the Cryptogamic flora of the island appears to be poorly represented, in so far as number of species is concerned.—A note on *Arctomys dichrous*, an oddly-coloured kind of Marmot inhabiting Cabul, by Dr. J. Anderson, was announced.

**Geological Society**, May 10.—Prof. P. Martin Duncan, F.R.S., president, in the chair.—W. Borrer, James I'Anson, John William James, Mark Stirrup, and Charles Wilkinson were elected Fellows of the Society.—The following communications were read:—On some fossil reef-building corals from the Tertiary deposits of Tasmania, by Prof. P. Martin Duncan, F.R.S. The species described by the author were *Heliastræa tasmaniensis*, sp. n., *Thamnastræa sera*, sp. n., and a second species of *Thamnastræa*. Both these genera are composed of reef-building corals, and the species here described undoubtedly belonged to that category. They required the natural conditions peculiar to coral-reefs. The author noticed the facts as to the distribution of land and water in the Australian region in Lower Cainozoic times, which are revealed by the deposits belonging to that age, and indicated that although the insular distribution of the land may have been unfavourable to the growth of coral-reefs, the existence of a suitable sea-temperature in the latitude of Tasmania is insufficiently explained. A single relic of the old reef-building corals survives on the shores of Tasmania in the *Echinopora rosularia*, Lam., but all the other forms have died off. The coral isotherm would have to be 15° lat. south of its present position to enable reefs to flourish south of Cape Howe, and this could be caused only by a change in the arrangements of land and sea, and in the position of the polar axis. The author indicated the general arrangements of land which seemed to have prevailed, and noticed that at that period and even earlier the coral isotherm of 74° reached fully 25° north of its present position in the portion of the globe antipodean to Tasmania; but it would seem to require more than mere geographical changes to account for the existence of important reefs in western, central, and southern Europe and in Tasmania synchronously. The flora underlying the marine Cainozoic deposits of Victoria indicate tropical conditions, as do the Echinodermata of the succeeding strata (described in the following paper). The fossil plants of the Arctic regions, from the Carboniferous to the Miocene epoch, give evidence of the existence of higher temperatures and of other conditions of light than those now prevailing, but were the polar axis at right angles to the plane of the ecliptic, and were there no greater node than at present, there would be equal day and night at all points. The difficulty is to account for the present position of the axis on this supposition; but the author suggested that the great subsidences of Miocene lands, the formation of the southern ocean, and the vast upheavals of northern areas at the close of the Miocene epoch, may have sufficed to produce the present condition of things.—On the Echinodermata of the Australian Cainozoic (Tertiary) deposits, by Prof. P. Martin Duncan, F.R.S. In this paper, after noticing the history of our knowledge of Australian Tertiary Echinida, the author gave a list of the species at present known, amounting in all to twenty-three, and described the following as new species:—*Leiocidaris australiæ*, *Temnechinus lineatus*, *Arachnoides Loveni*, *A. elongatus*, *Rhynchopygus dysasteroides*, *Echinobrissus australiæ*, *Holaster australiæ*, *Maretia anomala*, *Eupatagus rotundus*, and *E. Laubei*. The author remarked upon the characters and synonymy of the previously known species, his most important statement being that the so-called genus *Hemipatagus* is in reality identical with the recent genus *Lovenia*, Gray, as clearly shown by fine specimens in his possession. The most marked genera of the existing Australian fauna are not represented, but are replaced by numerous Spatangoids; three species, however, are identical; but two of these have a very wide range. Of the remainder, nine are allied to recent Australian species, mostly from the north of the continent; six are allied to European and Asiatic Cretaceous forms; five are closely related to Nummulitic types; and one species appears to belong to a peculiar genus, namely, *Paradoxechinus novus*, Laube.—On the Miocene fossils of Haiti, by Mr. R. J. Lechmere Guppy, F.L.S.

**Anthropological Institute**, May 9.—Col. A. Lane-Fox, president, in the chair.—In a paper, with copious tables, under the title of Prehistoric names of weapons, Mr. Hyde Clarke traced an early chapter in the history of culture, showing that the names of weapons and tools were widely distributed among the aborigines of Africa, Asia, Australia, and America. He illustrated the archæological relation to the stone age by citing conformities between axe and knife and stone. In Africa, where stone weapons are so far as is known rare, the evidence of names is strong in affirmation of its having passed through a stone epoch.—Canon Rawlinson read a paper on the ethnography of the Cimbri. There were two theories respecting their origin—the one that they were Germans, the other that they were Celts. The evidence on both sides was slight, and very nearly balanced. The majority of the early writers were in favour of the Celtic view. Cæsar, who pronounced the Cimbri to be Germans, may not have met with any of pure blood. Much would depend on the meaning of the term yellow hair, and the reason for the employment of Celtic spies in the Cimbrian camp. The name Cimbri has so near a resemblance to Cymry (the *b* in Cambria being a usual Roman addition), that this was perhaps as good evidence as any in favour of the Celtic affinities of the race. On the whole Canon Rawlinson inclined to this view.—A short communication from Prof. Lubach, describing the "Hunebedden," or stone monuments in Holland, was read by the Director, Mr. E. W. Brabrook.

**Entomological Society**, May 3.—Sir Sidney Smith Saunders, C.M.G., vice-president, in the chair.—M. Jules Lichtenstein, of Montpellier, was balloted for and elected a foreign member.—The Rev. J. Hellins sent for exhibition various British Lepidoptera, recently submitted to M. Guenée for his opinion and determination. One of the most important was a *Noctua*, bearing some resemblance to *Xanthia ferruginea*, not known to M. Guenée, taken at Queenstown, flying over bramble blossoms, in July or August, 1872, by Mr. G. F. Mathew; it was also unknown, as European, to Dr. Standinger.—Mr. Distant exhibited a series of six examples of the butterfly, *Ithomea tutia*, Hewitson, from Costa Rica, showing a very considerable variation in markings to which the species is evidently liable. He also communicated some remarks on the *Rhopalocera* of Costa Rica, with descriptions of species not included in the Catalogue of Messrs. Butler and Druce, published in the "Proceedings of the Zoological Society" for 1874.—Mr. Douglas exhibited specimens of the Corozo Nut (*Phytelephas macrocarpa*), the vegetable ivory of commerce, of which the interiors were entirely eaten away by a species of *Caryoborus* (one of the *Bruchides*). A specimen of the beetle was shown, with nuts, from the London Docks, which had been recently imported from Guyaquil.—The Secretary read a letter he had received from the Foreign Office Department, enclosing a dispatch from her Majesty's Minister at Madrid, relative to the steps taken to check the ravages of the locust in Spain. It appeared that considerable apprehension was felt in many parts of Spain that the crops of various kinds would suffer greatly this year from the locust, and the Cortes had already voted a large sum to enable the Government to take measures to prevent this calamity, and by a Circular addressed to the Provincial Governors by the Minister of "Fomento," published in the Official Gazette, they were directed to make use of the military forces stationed within their respective districts to aid the population in this object. It was stated that thirteen provinces were threatened with this plague.

**Geologists' Association**, April 7.—Mr. Wm. Carruthers, F.R.S., president, in the chair.—On the volcanoes of Iceland, with special reference to those mountains which have recently erupted, by W. L. Watts. The vast mass of the Vatna-Jökull rests upon a base of tuff and agglomerate traversed in many places by intruded basaltic and other lavas. This mountain and its immediate neighbours constitute the highest and probably the oldest part of Iceland, for its lava streams are in a state of ruin and decay unequalled in any other part of the country, and it is girt upon its southern base by sea-cliffs, which must have been washed by the ocean when many other parts of Iceland were under water, unless a very serious depression has taken place since the southern outlying hills of the Vatna and Skaptar Jökulls were washed by the sea. The fires in the Vatna are not yet extinct. Crossing the deserts to the north of the Vatna Jökull, on the west is a large tract of lava, the greater part of which has flowed from Skaldbreith; whilst in front rise the Dyngjufjöll or Chamber Mountains, the volcanoes which caused so much damage to the north of Iceland last spring. These mountains are composed of palagonitic agglomerate, and are in many places traversed by dykes and masses of lava, whilst numerous protruding scoriaceous crags suggest that lava streams may lie beneath. The sides have been fissured and cracked by the violent earthquakes which preceded the eruption of last spring. In the latitude of 64° 45′ N., and extending eastward towards the sea shore, the country was found to be strewn with a light vitreous pumice, very vesicular, and assuming most beautiful shapes. The crater from which this was ejected is situated in the south corner of the Askja (oval wooden casket), the name given to an elevated piece of land enclosed upon all sides but the north-east by semi-detached sections of mountains. The fissures in this volcano were still in active eruption, sending forth vast volumes of steam, a dark granulated fetid earth which occasionally fell around in showers, and a little water. Copious floods of water had flowed down the sides of the volcano; this is the more remarkable, as the Dyngjufjölls are neither glacial nor snow-capped mountains. The Oskja-gjá (chasm of the oval wooden casket) is, moreover, at least thirty-eight geographical miles from the lake of Mývatn, and forty-five from the nearest sea-shore. The second centre of recent volcanic activity is situated in the Mývatns Orœfi, where the volcanic fires first made their appearance last year. After the violent earthquakes which at Christmas, 1873, shook the north-east of Iceland, a fissure twelve miles in length, and varying from one to thirty feet in breadth, opened in the west portion of the Mývatns Orœfi, and commenced to eject lava from fourteen or fifteen different points. Many of the smaller fissures formed by these earthquakes cast up stones and ashes, and lava welled up through them. The great discharge of lava, however, was from the great fissure, which formed a lava stream some thirteen miles in length, and varying from one to three in breadth; it has overflowed an older lava stream which had issued from a vent in the Mývatns Orœfi, called the Svinagjá. This fissure broke out again in March, and continued in a state of intermittent activity until the following April. The lava is basaltic, and differs from the ancient streams only in its not containing olivine. The fundamental rock of Iceland is the palagonitic tufa of sub-aqueous origin, disturbed and at times metamorphosed by enormous masses of amygaloidal basaltic lava; these are overlaid by sub-äerial lava streams, pumiceous tuffs, and agglomerates which have been formed by debacles and atmospheric influences. Trachytic lavas occur but sparingly, the trachytic band supposed to bisect the island from Cape Langaness to Rejkjaness being unsupported by investigation. Trachytes in a much altered condition have been found around and between Hekler and the geysers. Obsidian is seldom met with *in situ*; Mount Paul, however, in the heart of the Vatna Jökull, consists of this rock, whilst the pumiceous outburst of the Oskja-gjá must also be referred to it.

May 5.—Prof. J. Morris, F.G.S., vice-president, in the chair.—On the section of the chloritic marl and upper greensand on the northern side of Swanage Bay, by H. George Fordham, F.G.S.—Notes on the geology of the neighbourhood of Swanage, by W. R. Brodie.

**Institution of Civil Engineers**, May 9.—Mr. W. H. Barlow, vice-president, in the chair.—The first paper read was on the construction of railway wagons, with special reference to economy in dead weight, by W. R. Browne, Assoc. Inst. C.E.—The second paper read was on railway rolling-stock capacity, in relation to the dead weight of vehicles," by Mr. W. A. Adams, Assoc. Inst. C.E.

CAMBRIDGE

**Philosophical Society**, Feb. 28.—The following communication was made to the Society by Prof. Clerk Maxwell, on Bow's method of drawing diagrams in graphical statics, with illustrations from Peaucellier's cell:—A frame is a structure consisting of pieces jointed together at their extremities. In diagrams the joints are represented by points, and the pieces by straight lines joining the points. A diagram of stress is a figure such that the forces acting at each joint of the frame are represented in direction and magnitude by the sides of a polygon in the diagram of stress. When the diagram of stress is such that to the lines which meet in a point in the diagram correspond the sides of a polygon in the frame, and the diagram are said to be reciprocal. Mr. R. H. Bow, C.E., F.R.S.E., in his "Economics of Construction in relation to Framed Structures," has pointed out a method of constructing reciprocal diagrams which applies to cases which I had formerly thought impracticable. Mr. Bow assigns a letter to each enclosed space of the frame, and also to each division of the surrounding space as separated by the lines of action of the external forces. When two pieces of the frame cross each other without being jointed, Mr. Bow treats them as if they were jointed. The forces at the point of intersection are represented by a parallelogram. In the diagram of stress the letters are placed at the points which correspond to the enclosed spaces of the frame. In Peaucellier's cell the three external forces acting at the centre and the two bracing points meet in a point in the diagonal through the other two angles of the rhombus. To every positive cell in which the centre is outside the rhombus corresponds a negative cell in which the centre is inside the rhombus, and if the point of concourse of the forces is outside the rhombus in one case it is inside in the other. Every line in the one figure is parallel to the corresponding line in the other, and the only difference is that the acute angles of the rhombus, in one figure correspond to the obtuse angles in the other. These two frames have the same diagram of stress, so that the stress of corresponding pieces in the two frames is the same.

March 23.—Mr. Pearson made a communication on a set of lunar distances taken by him under rather peculiar circumstances last autumn, Oct. 8.

March 27.—Mr. Anningson read a paper on the relation of the spinal cord to the tail in mammals.—On vital force, by Mr. H. F. Baxter.

MANCHESTER

**Literary and Philosophical Society**, Feb. 22.—Mr. E. Schunck, F.R.S., president, in the chair.—Notes on a collection of apparatus employed by Dr. Dalton in his researches, which is about to be exhibited (by the Council of the Literary and Philosophical Society of Manchester) at the Loan Exhibition of Scientific Apparatus at South Kensington, by Prof. Roscoe, F.R.S.—A letter from Mr. Arthur Wm. Waters, dated Naples, Feb. 9, 1876, was read by Mr. Baxendell, giving some account of the Naples Zoological Station.—On glacial action in the valley of the Wear, &c., by Prof. T. S. Aldis.

Feb. 29.—E. W. Binney, F.R.S., in the chair.—An account of some early experiments with ozone, and remarks upon its electrical origin, by J. B. Dancer, F.R.A.S.—Results of rain-gauge observations made at Eccles, near Manchester, during the year 1875, by Thomas Mackereth, F.R.A.S.

March 7.—Mr. E. Schunck, F.R.S., president, in the chair.—Mr. R. S. Dale exhibited specimens of crystals of sulphate of lead found in alum residue.—On the degree of accuracy displayed by druggists in the dispensing of physicians' prescriptions in different towns throughout England and Scotland, by Mr. William Thomson, F.C.S.

March 13.—Prof. W. Boyd Dawkins, F.R.S. in the chair.—Mr. Charles Bailey exhibited a series of slides illustrating similarities of structure in Dicotyledonous and Monocotyledonous stems.—Mr. R. D. Darbishire, F.G.S., exhibited a series of specimens of very young *Rhombus vulgaris* (Cuv.), showing (1), the two eyes on each side of the vertebral plane; (2), the removal of the eye from the underside to the dorsal edge; (3), the appearance of both eyes on the one (upper) side of the fish. He also communicated some notes made during a visit in the past summer to the Swedish shell-beds of Uddevalla and the neighbouring district, and exhibited a collection of the fossils of remarkable extent and beauty.—List of shells found in Cymmeran Bay, Anglesea. Corrections and additions, by Mr. John Plant, F.G.S. Addenda and corrigenda.

March 21.—Mr. E. Schunck, F.R.S., president, in the chair.

—Dr. Arthur Schuster exhibited an interesting collection of objects brought by him from Siam and the Western Himalayas. —On a graphical method of drawing spectra, by Mr. William Dodgson.—Evidence to prove that a bone from the Windy Knoll, Castleton, named by Prof. W. Boyd Dawkins, F.R.S., "Sacrum of young Bison," is a sacral bone of the Cave Bear (*Ursus spelæus*), by John Plant, F.G.S.

April 4.—Mr. E. Schunck, F.R.S., president, in the chair.—Prof. W. Boyd Dawkins, F.R.S., called the attention of the Society to the depreciation of silver which is now under the notice of a select committee of the House of Commons, and in connection with this called attention to the enormous mining wealth of the Nevada silver-mining district, a part of which he had had the opportunity of examining last autumn.—On some isomerides of alizarine, by Edward Schunck, F.R.S., and Dr. Hermann Roemer.—Prof. Boyd Dawkins, F.R.S., said with reference to the Windy Knoll bone, spoken of by Mr. Plant at the last meeting, that he had re-examined the evidence, and consulted Mr. Davis, of the British Museum, and found that he was mistaken in referring it to bison. The evidence of the jaws and teeth proves that the bear of Windy Knoll is not the cave, but the great fossil grizzly bear (*U. ferox fossilis* = *U. priscus*), as may be seen by a reference to the Quart. Geol. Journ., Lond., 1875, pp. 251–2.—The Eucalyptus near Rome, by Dr. R. Angus Smith, F.R.S., V.P.

April 18.—Annual General Meeting.—Mr. E. Schunck, F.R.S., president, in the chair.—The number on the roll on April 1, 1876, was 166.—Mr. Edward William Binney, F.R.S., F.G.S., was elected President.—Mr. W. E. A. Axon read a note on a church bell, at North Wooton, Somersetshire, dated A.D. 1265, in Arabic numerals, and on a MS. dated A.D. 1276, in which they are freely used.

### VIENNA

**Geological Society**, March 7.—M. F. Karrer examined, together with M. Linzow from Odessa, the limestones and lime-sand beds of the environs of Odessa, and found that nearly the whole mass of them is composed of Foraminifers belonging to the genus Nubecularia, which attach themselves to various other bodies, and therefore appear in many different forms.—Director Ruecker stated the most recent results obtained concerning the division of the coal-strata of Ajka, in Hungary, and presented to the Society a rich collection of fossils from this country.—M. F. Posépny referred to the salt-pits of Bex, near Geuf, and argues that neither the salt-beds of the Alps nor those of other countries are bound to a fixed geologic il horizon.—Dr. R. Hörnes on the remains of Anthracotherium from Zoveneedo.

### PARIS

**Academy of Sciences**, May 15.—Vice-Admiral Paris in the chair.—The following papers were read:—Meridian observations of small planets at the Greenwich and Marseilles Observatories during the first three months of 1876; communicated by M. Le Verrier.—Note on the theoretical and experimental determination of the relation of the two specific heats in perfect gases whose molecules are monatomic, by M. Yvon Villarceau. In the ideal case where each gaseous molecule consists of only one atom, the relation of the two specific heats would be independent of the chemical nature of the gas, and equal (the author showed) to 1·666. Now MM. Kundt and Warburg have lately obtained for mercury vapour the number 1·67. He suggests the possible existence of other monatomic gases. M. Berthelot reserved his assent to the conclusions regarding mercury vapour.—On a working model of a new system of navigation locks, applicable specially to cases where the surfaces of water of the canals are very variable, by M. de Caligny.—Second note on the bitter lakes of the Isthmus of Suez, by M. de Lesseps. Notwithstanding the solution of the bank of salt in the middle, and the evaporation, the saltness diminishes. This must be due to currents, produced through difference of density between the water of the lake and that of the extremities of the canal; the heavy water flows to the sea, while the surface currents bring in water that is less salt. Hence an orifice of small section may suffice to prevent large sheets of salt water, though far from the sea, being concentrated by the heat.—Study of several questions relative to the Suez Canal, M. de Lesseps. *Inter alia*, rain now falls at least twice a month; during the construction of the canal, previously to 1870, M. de Lesseps observed rain not more than once in the year.—On the danger of introduction of certain American vines into the vineyards of Europe, by M. Marés. This is on account of the phylloxera found in galls on the leaves of American vines.—Mineralogical and geological researches on the lavas of the dykes of Thera, by M. Fouqué. This memoir furnishes new data on the distinction of felspathic species, the simultaneous presence of several triclinic felspars in one rock, the structure of lava at the moment of effusion, and the bedding and production of tridymite in volcanic rocks.—On the phylloxera issue of the winter egg, by M. 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