

News and Views.

A SPECIAL general meeting of members of the Royal Institution will be held on Monday next, Oct. 8, when the managers will place before them several matters relating to the general position of the Institution and desirable alterations in the structure. The lecture theatre is now much out-of-date, partly on account of natural deterioration, but more particularly through the rise of the accepted standard. Considerable changes must be made in the structure, the seating, and the exits if they are to conform to the requirements which are now usual and are indeed enforced in the case of public buildings. A large sum of money would be required to carry out the rearrangements and additions under consideration. The expense is not lessened by the determination, which the managers consider to be of the highest importance, that the historic rooms shall not be touched. The sum required is in the neighbourhood of £75,000. At the meeting on Oct. 8, the managers will ask for powers to proceed with negotiations and the preparation of detailed plans. These matters will be submitted for approval or rejection at a further meeting of members in November. There is, of course, the hope that by that time some friend of the Institution may have come forward to save the necessity for disposing on lease of any part of the building.

AN observatory is being erected in Mill Hill Park to house the 24-in. reflecting telescope by Grubb which belonged to the late Mr. W. E. Wilson, F.R.S., of Darramona, Ireland, and was presented by his son to the University of London on condition that it should be adequately housed and maintained. The Hendon Urban District Council has provided the site, and provision will be made for the ratepayers to visit the observatory. Provision will be made at the new observatory for the accommodation of the 10-ft. Rowland grating at University College and a cœlostast by Cooke. A well-equipped workshop will be provided and a full-time mechanic appointed so that research apparatus may be made as required, and it is hoped that inventing and trying out new or improved observational methods will constitute one of the chief activities of the observatory. There are, however, several problems relating to the photography of nebulae for which this instrument appears to be well adapted, such as making short exposures on nuclei of suitable non-galactic nebulae in order to determine their precise positions relative to the stars, so that data may eventually be available concerning the possible rotation of the galaxy.

GEORGE BAXTER was born at Lewes in 1804, and as a youth was engaged in the printing works of his father, John Baxter, as lithographer and engraver. At that time prints were sometimes coloured by printing, but the process cannot have been very successful though it had been practised for many years, for even large editions were being coloured by hand. In 1835 Baxter was granted his patent and says: "In order to produce a number of ornamental prints resembling a highly coloured painting, whether

in oil or water colours, according to my inventions, I proceed first to have the design engraved on a copper or steel plate." This engraved plate gave the outline and the detail, and colours, chiefly (or only) in oil, were then applied by means of blocks. But the beauty of the prints, which are noted for their delicacy and brilliance, was not entirely due to the method. Baxter was an artist who could paint pictures; he was a practical printer and engraver; he knew what was wanted and had the skill and perseverance to get it. The famous print of Queen Victoria's coronation, for example, contains about 200 portraits, many made from the life by Baxter himself, and needed more than twenty printings to get the colouring.

THE first books that Baxter illustrated were printed in 1834, when he resided in King Square, Goswell Road. In the following year he removed to 3 Charterhouse Square, and after nine years (1844) to 11 Northampton Square. His business prospered so that in 1851 he occupied No. 12 as well, and it was in these two houses that the bulk of the work by which he is known was done. His effects were sold by auction in 1860, and in 1867 he died. It seems rather strange that the London County Council, after consideration, concluded that so notable a pioneer and producer of printed colour pictures as George Baxter "was not of sufficient eminence" to justify marking with a memorial tablet the house in Northampton Square where he lived and worked, but it is satisfactory that Mr. E. Kilburn Scott and numerous subscribers have provided and fixed the tablet that was recently unveiled.

LORD EUSTACE PERCY, the Minister of Education, on Wednesday, Sept. 26, opened the new Hastings Museum, which was a palatial residence built by a private resident, Mrs. Kidd, and sold very cheaply to the town by the owner. The configuration of the rooms lends itself to the display of objects illustrating the history of the town and East Sussex. Lord Eustace said that the value of museums, like the one at Hastings, the real significance of which people often forget, is that they are a sort of local visualised reference library of the arts and sciences, and therefore an essential part of national education. Museums represent something like a local college of learning to which the elementary and secondary school children may resort, so that study of the contents may lead to the realisation of the value of education throughout life. In fact a museum ought to be a centre of higher education and intellectual life. Dr. Bather, lately of the British Museum (Department of Geology), who was representing the Museums Association, put in a serious plea for the exhibition, not merely of antiquities, but of what people called 'bygone days.'

OUR note on St. Fiacre (see "Calendar of Customs and Festivals," NATURE, Sept. 1, p. 334) has stimulated Mr. G. M. Fraser, of the Public Library, Aberdeen, to contribute to the *Aberdeen Press and Journal* of Sept. 21 a well-informed article on this saint who, under

the form of St. Fittack, is the patron of the church of the parish of Nigg, Aberdeen. Mr. Fraser is convinced of the Scottish origin of the saint, accepting Dunstaffnage on the coast of Argyll as his birthplace, at about the end of the sixth century. It is possible that this is correct, as this was an ancient royal seat, and after St. Fittack had settled in France he is said to have been visited by a deputation of chiefs and priests who wished him to accept the throne as a member of the royal line. The question is obscure, and it has to be remembered that in early records 'Scot' is usually to be taken to mean racially what we would now call Irish. Mr. Fraser points out that the various forms of the saint's name, which are many, are all derived from the Irish *fiach*, a raven. How the church at Nigg came to be dedicated to St. Fiacre is not clear, but Mr. Fraser suggests that his patronage of stocking-knitters is derived from his connexion with Aberdeen, as the art is said to have been introduced into France from Scotland. Owing to limitation of space our Calendar must necessarily pass over much that is worth noting. The life of St. Fiacre, apart from the association of his name with a Parisian public vehicle, has many points of interest to the folklorist, such as, for example, the recurrence in his relations with the Bishop of Meaux, *inter alia*, of the familiar story of a grant of such an amount of land as could be encompassed in a day, in which, once more, the beneficiary got the better of the bargain.

A SHORT account of personal recollections of Sir Richard Owen in the later years of his life appears in the *Victorian Naturalist* for July. The writer, Edward A. Vidler, a grandson of Dr. George Bennett, the Sydney naturalist, was then in his early twenties and paid regular visits in the middle 'eighties to Sheen Lodge, a comfortable and picturesque cottage in Richmond Park, where Sir Richard lived with his daughter-in-law and a maid-servant. Richard Owen, then about eighty years of age, is pictured as a man tall and thin, with big hands and feet, square shoulders, a large head, with a very prominent high forehead and very deep-set grey eyes, high cheek-bones, a long heavy nose with broad nostrils, very wide thin-lipped mouth, square chin, over which grew a long beard of black hairs so sparse that the contour of the chin was clearly visible, and long, thin, straight dark hair surmounted by a black skull-cap. He was, to the young man, a fearsome figure at first sight, but had an air of friendliness and gentleness the very antithesis of his outward appearance. Mr. Vidler's anecdotes of Sir Richard reveal him as the great investigator, sure of his ground, as a collector who showed with pride the gems of his collection, and as the possessor of that heavy type of humour which seems somehow to be characteristic of the man of science, though it is scarcely likely that even under its prompting the anatomist would hand his guest the vertebra of a whale in lieu of bread. The disc-like epiphysis alone would represent a mighty pancake! The photograph from the Vidler family album, reproduced in the short article, is an excellent and characteristic portrait of Richard Owen.

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ZOOLOGISTS lament, and with some reason, the burden of scientific synonyms which gathers about certain well-known species. But scientific synonymy must take second place to the superfluities of popular nomenclature. Albert Wade has collected the local and general names which have been applied to salmon and sea-trout, and they number one hundred and thirty-six (*Salmon and Trout Magazine*). Even allowing that there are six well-defined life-stages in the history of a salmon, the superfluity is obvious. The great difference between scientific and popular synonymy, however, is that while the former represents some sort of imperfect identification, the latter generally stands for local idiosyncrasy. The list therefore would have been much increased in value had the author indicated the area in which each name was in common use.

THE new geyser which began erupting in Yellowstone Park early in August is described in a recent *Daily Science News Bulletin*, issued by Science Service, Washington, D.C., to be the greatest now active in the world, and with the exception of Old Excelsior, extinct since 1888, the greatest ever witnessed. The crater is elliptical in outline, 100 by 120 feet, and about 8 feet deep. The geyser suddenly bursts forth in furious and explosive activity, hurling water in all directions to an average height of 60 to 75 feet, with occasional spurts reaching as much as 100 feet. Outbursts occur at 15 or 20 sec. intervals, and continue for some three hours before the eruption abruptly comes to an end. Then follow nine hours or so of quiescence, during which the crater is dry except in a small fissure and several boiling mud-springs along the north edge. The action of the geyser is so violent, its eruptions so spectacular, and its periodicity so regular, that it is likely to become one of the Yellowstone's greatest attractions. A special road is now being constructed to make it accessible to the touring public. Of particular interest is the news that Dr. A. L. Day and Dr. E. T. Allen, of the Geophysical Laboratory at Washington, are conducting a thorough investigation of the phenomena. The former eruptions of the neighbouring Excelsior Geyser were not so frequent as those of the new geyser, and lasted only half an hour instead of three hours, but they were even more violent, throwing large masses of water from 100 to 200 feet in the air. In the late 'eighties the steam explosions so increased in power that the sinter encrusting the crater began to be torn off in jagged blocks. The geyser rapidly "erupted itself to death," and for nearly forty years its precipitous-sided pit has been occupied only by a hot seething lake.

THE Fabian Society announces a course of six lectures under the general title "Western Civilisation: whither is it going?" to be given in the Kingsway Hall at 8.30 P.M. on successive Thursdays, commencing Oct. 18. The lecturers and the special aspects of the subject with which each will deal are the Hon. Bertrand Russell (general); Mr. J. B. S. Haldane (science); Prof. C. Delisle Burns (labour); Prof. Ernest Barker (spiritual authority); Miss Rebecca

West (woman); Mr. Bernard Shaw (the future). Mr. Russell's syllabus opens with the provocative statements that western civilisation derives from four sources, Greeks, Jews, Romans, and science, and that the catholic church is a synthesis of the first three. In Mr. Haldane's view, western civilisation rests on applied science, and its future will depend largely on how science is applied to human life; and he will deal specially with socialists' 'reaction' to this thesis. Light on this question will also be thrown by Prof. Delisle Burns, who makes the reassuring announcement that "the contrast between an 'intelligentsia' incompetent with his hands, and 'labour' incompetent with its brain, is breaking down." Miss West will develop her view that the common lot of woman is persecution—in some parts of western civilisation by overwork, in the United States by underwork. Finally, Mr. Shaw, who will lecture last, will begin at the beginning by discussing the thesis that there is an entity to which the term 'western civilisation' can be applied. "To call these bungaloid promiscuities civilisations merely because they have all ceased to run out excitedly to look up at aeroplanes, and can argue about birth-control, is absurd."

STEADY progress is being made by the Imperial Geophysical Experimental Survey which is at work in Australia under an arrangement between the Empire Marketing Board and the Commonwealth Government. Mr. A. Broughton Edge, the leader, has visited several areas which, for various reasons, seemed likely to be suitable for the projected tests of geophysical methods. On his recommendation the executive body in control of the survey has authorised a commencement of work by the electrical methods at Anembo, an unworked metalliferous field about 30 miles from Queanbeyan, a town in New South Wales on the boundary of the Federal Capital Territory. The New South Wales Department of Mines has undertaken to test the conclusions of the survey by boring, if they appear to be sufficiently encouraging. In addition, gravimetric work has begun on a brown coal area near Gelliondale, in Gippsland, Victoria, which affords opportunity for useful examination of suspected faulting, while being, at the same time, suitable for certain necessary preliminary studies of the gravity balance under characteristic Australian field conditions. With the arrival of the deputy-leader, Dr. E. Bieler, of McGill University, Canada, in July, and the appointment of several Australians to junior positions, the personnel of the party is now nearly complete.

It is not a simple matter to find mining fields ideally suitable for geophysical tests of the type desired. In most of the known fields the existing shafts, plant, railway lines, etc., introduce complications which it would be well to avoid in test experiments. Over immense areas the existence of underground saline waters, containing from one to five ounces of salts to the gallon, introduces a further difficulty that is rather typically Australian. Even more typical and likely at times to be somewhat annoying to workers on

electrical conductivity is the common long rabbit-proof fence of wire netting, the bottom of which goes at least six inches into the ground. Attention is being given to the possibility of effectively applying geophysical methods to the discovery of underground water in a wide area of several million acres in the southern portion of Western Australia. This region is under consideration as one suitable for development under the migration agreement between Britain and the Commonwealth.

At the time of the establishment of the Austrian Republic, although its area and population were each approximately one-quarter that of the old Empire, yet the home supply of coal was almost negligibly small. It was compelled, therefore, by sheer necessity, to develop as quickly as possible the water power that remained to the Republic. Luckily there were many Alpine lakes at a very high level which in 1918 had practically been unused for power purposes. With the help of about 30 per cent of the total capital required from foreign sources, building operations on at least 120 water-power stations have been begun since the War. The installed horse-power is now nearly a million, of which about two-thirds is in operation. The federated railways have four large hydro-electric stations which supply the western main lines. Upper Austria sends its surplus power to Vienna. Similarly Salsburg sends power to Bavaria. The new 220,000 volt line leading from the Alps to the Rheinische-Westphalia industrial districts has brought the question of the export of power to Germany more to the foreground. The possibility is thus opened up of transmitting power to the States to the north of Austria. One advantage of exporting power is that this is one of the few exports which is not burdened by those import duties generally imposed upon raw materials. About two-thirds of the total electric power used for industrial power purposes in Austria is obtained from water power. The Vienna electricity works have more than doubled their output since 1919. The Austrian banks have taken a very active part in developing the power which its mountain lakes and rivers have bestowed on the republic. Further particulars of Austria's water power are given in the *Electrical Times* for Sept. 20.

MR. MATTHEW W. STIRLING has been appointed chief of the Bureau of American Ethnology, Smithsonian Institution, Washington, D.C., in succession to Dr. J. Walter Fewkes, who retired early this year.

ON the retirement of Major Leonard Darwin from the office of president of the Eugenics Society, the fellows and members are presenting him with a portrait. The presentation will take place in the rooms of the Linnean Society, Burlington House, W.1, on Wednesday, Oct. 10, at 5.30 P.M.

THE autumn meeting of the South-Eastern Union of Scientific Societies will be held on Saturday, Oct. 27, when visits will be paid to the Croydon Aerodrome

and Air-Port and to Whitgift's Hospital, Croydon. Particulars can be obtained from Mr. E. A. Martin, "Croham Hyrst," St. Lawrence, Isle of Wight, or Mr. R. W. Strickland, 5 and 6 Clement's Inn, W.C.2.

AN unusually extensive edition of the old-fashioned travelling menagerie is being put on the road by Chapman's, the well-known animal dealers of Tottenham Court Road, London, W.C.1. Its extent is indicated by its major attractions, which include 14 lions, 12 tigers, 10 zebras, 10 polar bears, 8 other bears, 7 leopards, and 200 'various species,' which we imagine means *specimens*, of monkeys, as well as many lesser mammals and interesting birds. Beginning on Sept. 24 at Chelmsford, the route traverses the midlands of England, and ends with a month's exhibition in Glasgow in December and January. The passing of this large collection should afford an opportunity for many who are out of touch with the larger zoological gardens to see a good selection of the interesting creatures of other lands.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned :—A resident chaplain and lecturer in mathematics ; or a resident lecturer in mathematics and physics at the York C. of E. Training College for Schoolmasters—The Principal, St. John's College, York (Oct. 14). A research assistant, under the Safety in Mines Research Board, for work in connexion with wire ropes used in coal mines—

The Under-Secretary for Mines, Establishment Branch, Mines Department, Dean Stanley Street, S.W.1 (Oct. 15). A head of the Engineering Department and assistant headmaster of the Junior Technical School of the Darlington Technical College—The Chief Education Officer, Education Office, Darlington (Oct. 18). A senior chemistry master at the Hull Grammar School—The Headmaster, Grammar School, Hull (Oct. 20). A principal of the Denbighshire Technical Institute—The Secretary and Director of Education, Education Offices, Ruthin (Oct. 29). A professor of pathology in the University of Otago, Dunedin—The High Commissioner for New Zealand, 415 Strand, W.C.2 (Oct. 31). A lecturer in metallurgy at the Birmingham Central Technical College—The Principal, Central Technical College, Suffolk Street, Birmingham (Nov. 3). An analyst at the Harper Adams Agricultural College—The Principal, Harper Adams Agricultural College, Newport, Salop. A senior mathematical mistress at the Cheltenham Ladies' College—The Principal, Ladies' College, Cheltenham. A senior mathematical mistress at the Bath Royal School—The Principal, Royal School, Bath. A master for chemistry, physics, and mathematics at Connell's Institute, Belfast—The Principal, Connell's Institute, Belfast. Teachers of third year machine design and third year engineering calculations, under the Croydon Education Committee—The Principal, Central Polytechnic, Scarbrook Road, Croydon.

Our Astronomical Column.

THE PLANET MERCURY.—*Revue Scientifique* of Aug. 11 contains an illustrated article on this subject by M. L. Rudaux, who has been observing the planet at intervals since 1893 at his observatory at Douville. His aperture of 4 inches is rather small for this purpose, but he enjoys a good atmosphere, and several of the sketches reproduced show a considerable amount of detail. His chart of the planet resembles in many of its features that published a year ago by M. E. M. Antoniadi from his studies with the great Meudon refractor. Both charts show the dusky regions much broader than the narrow streaks in Schiaparelli's chart ; for some markings all three charts agree, so these can be accepted with much confidence.

Schiaparelli and Antoniadi both considered that the planet's equator coincides with its orbit plane, but Rudaux suggests that there is an angle of 10° between them, the summer solstice of the northern hemisphere occurring a little after perihelion. He agrees with the other two in making the rotation coincide with the revolution (88 days), so that a large region has perpetual day, and another large region perpetual night. Owing to the very unequal motion in the orbit, arising from the large eccentricity, the region of perpetual night extends over only 133° of longitude instead of 180° for a circular orbit.

A BIG SUNSPOT.—During the latter part of September it was possible for a few days to see at the same time two spots on the sun's disc as naked-eye objects. The first spot to be seen crossed the central

meridian on Sept. 24. On the same day a moderate magnetic disturbance, commencing with a typical 'sudden commencement' at 16½ h., was recorded at Greenwich. This disturbance, which lasted until about 2 h. on Sept. 26, had a range in declination just exceeding ½°.

The second spot, or rather group of spots, was a remarkable one. When first observed near the east limb, it appeared as a 'bipolar' group or stream developing in the usual manner, but within four days it had grown rapidly and had become an immense complex group. Approximate measures of its area, corrected for foreshortening, in millionths of the sun's hemisphere, are given at intervals of 48 hours—

Sept. 22.	Sept. 24.	Sept. 26.	Sept. 28.
600	1400	2500	2500

Changes in structure were especially noticeable between Sept. 24 and 25. Judged from its maximum area, this is the largest group which has appeared since the great spot of January 1926.

No further magnetic disturbance of any note had occurred, however, up to 10 h. on Oct. 1.

Other particulars of the two spots are given as follows, the areas being expressed as the proportion of the hemisphere covered.

No.	Date on Disc.	Central Meridian Passage.	Latitude.	Maximum Area.
8	Sept. 18–Sept. 30	Sept. 24.4	15° N.*	1/750
9	Sept. 21–Oct. 3	Sept. 27.4	15° S.	1/400

* A large spot in the same latitude and longitude crossed the central meridian on July 31 (see NATURE, Sept. 22, p. 453).