

News and Views.

THE King's birthday Honours List contains the names of the following men of science and others associated with scientific work: *Order of Merit*: Sir William Bragg, in recognition of his eminent services in the advancement of science. *Knights*: Dr. J. B. Baillie, vice-chancellor, University of Leeds; Col. S. R. Christophers, director, Central Research Institute, Kasauli; Dr. W. C. D. Dampier-Whetham, fellow of Trinity College, Cambridge; Dr. P. C. Varrier-Jones, founder and Medical Director of Papworth Village Settlement for the Treatment of Tuberculosis; Prof. S. R. Krishnan, King George V. professor of philosophy, University of Calcutta; Prof. H. Lamb, emeritus professor of mathematics in the University of Manchester; Mr. C. R. Peers, president of the Royal Society of Antiquaries; Mr. R. L. Robinson, vice-chairman and technical commissioner, Forestry Commission. *C.I.E.*: Dr. L. C. Coleman, director of agriculture, Mysore State; Mr. A. McKerral, director of agriculture, Burma; Mr. C. A. Malcolm, chief conservator of forests, Central Provinces, India. *C.B.E.*: Dr. Kate Barratt, principal of Swanley Horticultural College, Kent; Mr. W. J. Hadfield, city engineer and surveyor, Sheffield, a pioneer in modern developments of highway engineering and road surfacing; Prof. H. M. Hallsworth, David Dale professor of economics, Armstrong College, University of Durham; Dr. Alice Werner, lately professor of Bantu languages at the School of Oriental Studies, London. *I.S.O.*: Mr. W. H. Moorby, assistant civil engineer-in-chief, Admiralty; Mr. J. B. Scrivenor, director, Geological Survey, Federated Malay States.

SIR ARTHUR KEITH, of the Royal College of Surgeons, has kindly forwarded to us the following cable addressed to him and dated May 26: "Child's skull found in Mousterian Breccia by MacCown of our expedition.—Garrod." Miss Dorothy Garrod is in charge of excavations at the caves of Mount Carmel for the British School of Archaeology in Jerusalem, and the party have evidently found a child's skull of Mousterian date. The only human remains of this date previously known from Palestine were the fragments of the Galilee skull found by Mr. Turville Petre in 1925, and two isolated teeth found by Miss Garrod in 1928 and 1929. The race represented by these fragments was the Neanderthal, and presumably the child's skull now found will also prove to be Neanderthal.

ON May 27, Prof. A. Piccard, of the University of Brussels, accompanied by Herr Kipfer, ascended at 4 a.m. from Augsburg, Bavaria, in an airtight aluminium sphere, about 2 metres in diameter, raised by a balloon which was stated when fully inflated to have the enormous capacity of half a million cubic feet. Anticyclonic conditions prevailed at the time, and the balloon after remaining in the air for 18 hours fell at a spot about 160 kilometres to the south. Prof. Piccard succeeded in reaching a height of about $15\frac{1}{2}$ kilometres, probably penetrating into the stratosphere by some four kilometres, and beating all previous

records of a manned balloon or aeroplane. On the descent, trouble occurred with the gas valve, and after long delay the balloon landed safely on a glacier in the Austrian Tyrol, both aeronauts fortunately escaping unhurt.

THE physical problem of raising a weight of perhaps a third of a ton to a height of 16 kilometres by means of a balloon is not in itself unduly difficult; it primarily reduces itself to a question of expense. But to carry observers and bring them back alive is a very different proposition, and Prof. Piccard and his assistant are to be congratulated on a very notable achievement. The air in the cabin was renewed by two oxygen cylinders, each capable of maintaining a good atmosphere for eight hours. As was to be expected, the aeronauts suffered considerable discomforts, and one strange anomaly was that at times the temperature inside the sphere was most unpleasantly high while the external air was 55° C. below freezing point, due to intense solar radiation in the rarefied atmosphere. Prof. Piccard states that the balloon rose 15 kilometres in the first 25 minutes. It is somewhat startling to learn that the stratosphere can be reached by observers after only 20 minutes' travel from the ground. Of the scientific results obtained it is too early to speak.

PROF. PICCARD hoped to obtain evidence of the cosmic rays under more favourable conditions than have previously been possible, and his contributions in this field will be awaited with interest. Meteorologists will be anxious to know if he has anything to tell them about the composition of the atmosphere within the stratosphere; even the amount of water vapour present there is not known, and more knowledge would be welcome regarding carbonic acid and ozone. Observations with self-recording instruments on unmanned balloons have already been made of cosmic radiation, atmospheric electricity, relative humidity, etc., but it is almost certain that in these cases very much better data could be obtained by eye observations, and in addition it should be possible to study the absorption of solar radiation of different wave-lengths by the atmosphere at these great heights. So successful an initial attempt would lead one to hope that much useful scientific information may be gained by this method in the future.

SIR FLINDERS PETRIE gave his first lecture on the results of his past season's work in southern Palestine at University College, London, on May 28. The excavations have now reached a stage which reveals Ajjul as the home of the Hyksos or Shepherd Kings. The Hyksos can no longer be regarded as mere nomads living in tents. For centuries they held this city, strongly fortified and a key position on the road from Palestine to Egypt, and twenty times as large as Troy. It must long have been a centre of commerce between Asia and Africa, for it had developed harbours and a system of weights and measures. At one point of the excavations, three storeys of buildings were penetrated. Eighty rooms full of debris, but

with doorways intact and walls also intact and eight feet thick, were brought to light. In the tombs, human beings, horses, and asses are buried together. Among them the 'great horses', which were imported for riding, were buried with special care. Among the material found in the tombs was a quantity of flat-bottomed pottery of a shape entirely non-Egyptian. It would appear that the city was abandoned about 2000 B.C., probably, it is thought, owing to malaria. Sir Flinders considers that there is still work for the next fifty years on Ajjul, but financial support for the work is needed.

In this connexion, we may refer to a letter which appeared in the *Times* on May 27 over the signature of forty students whose careers "have been moulded under the Professor's guidance". Directing attention to Sir Flinders Petrie's position as a pioneer in archaeological discovery and its methods and aims, whether in field work or in research at home, they remind the public of his annual expeditions to Egypt, of which the results have been published fully for the use of students and popularised by lectures and in the press. Beginning with his triangulation of the Pyramids, they go on to point out, his excavations in the Delta, Upper and Middle Egypt, and in Sinai and Palestine through the Badarian, prehistoric, and dynastic ages have linked up Egypt and Europe and have revealed ancient civilisations as a connected whole. This tribute, no more than is merited by a lifetime devoted, with brilliant results, to archaeological research, in which a wide circle will concur, is made the ground of an appeal for financial support for the continuance of training of archaeological students. The two existing scholarships, one for biblical research, the other in memory of Gertrude Bell, are in need of maintenance, and money is urgently required for the actual digging in the field.

FOUNDED in 1881, the Society of Chemical Industry this year celebrates its jubilee. The celebrations, which will be held in London and will occupy the seven days commencing July 13, begin with a meeting at the Guildhall at which additional guests may attend provided application is made for a ticket in advance; in the evening there will be a reception by the president, Sir Harry McGowan, and Lady McGowan, at the Great Central Hotel. On the following day, the annual general meeting will be held at the Royal Academy of Music, Marylebone; it will be followed by luncheon by invitation of the London section, and a garden party at Teddington. The evening will be devoted to receptions and a lecture. On July 15, the Society's medal will be presented to Dr. Herbert Levinstein, who will deliver an address; meanwhile a party will visit places of interest in London. Six alternative industrial visits are planned for the afternoon; members may visit the General Electric Research Laboratories, Messrs. Watney, Combe, Reid and Co.'s Mortlake Brewery, the works of the Wallpaper Manufacturing Co., Ltd., Achille Serre, Ltd., the British Drug Houses, Ltd., or the South Metropolitan Gas Co. The annual dinner will be held in the evening, when the principal guest will be H.R.H.

No. 3214, Vol. 127]

Prince George. Since this function is reserved for gentlemen, the ladies accompanying members will be the guests of the Society at dinner and at an entertainment. Various alternative engagements have been made for July 16. A party will spend the day at the Rothamsted Agricultural Research Station; other members have the choice of attending meetings for the reading and discussion of papers, or of listening to addresses delivered by two of the new honorary members. One of these addresses will be delivered by Dr. H. Sørensen on "Hydrogen Ion Concentration".

CHEMICAL industry includes the important branch of food manufacture and control, and a party of members of the Society will be invited by Messrs. J. Lyons and Co., Ltd., to luncheon, followed by visits to Cadby Hall and to Greenford. In the meantime, other parties will, in the afternoon of July 16, pay visits to the National Physical Laboratory and Chemical Research Laboratory, Teddington, to the research station of the Distillers' Co., Ltd., at Epsom, to the laboratories of Messrs. Burroughs Wellcome and Co. at Dartford, to the Fuel Research Station at Greenwich, or to the Pyrene Co. and the Firestone Tyre and Rubber Co. In the evening, a reception will be given by the president and Lady McGowan. On July 17, there are three all-day excursions: to Messrs. Huntley and Palmer's biscuit factory at Reading, to the Research Station of the Anglo-Persian Oil Co. at Sunbury-on-Thames, or to Windsor Castle and Eton College; in each case the arrangements include a river trip. The evening function is a reception and dance by invitation of the directors of Imperial Chemical Industries, Ltd., at Imperial Chemical House, Millbank, Westminster. Oxford will be visited by road on July 18, opportunity being afforded for the inspection of the Bodleian Library, the colleges, and the chemical laboratories. On Sunday, July 19, Canadian and American visitors will leave for their tour of the Midlands, the Lake District, and Scotland. Arrangements will be made for those who so desire to attend morning service at St. Paul's Cathedral, whilst the afternoon will be occupied by visits to Hampton Court or to the Zoological Gardens. Throughout the week there will be an exhibition of chemical plant and research instruments at the Central Hall, Westminster. Applications for participation in the celebrations, with the appropriate fees, will be accepted until June 30. The office of the Society of Chemical Industry is at 46 Finsbury Square, London, E.C.2.

MES. SOPHIE BOTCHARSKY and Anna Foeringer in a short letter on page 856 of this issue describe some photographic effects of vitamins A and B observed by them. It has been suggested by several observers that certain substances give off radiations to which their biological activity may be ascribed; thus Kugelmass and McQuarrie (*Science*, vol. 60, p. 274; 1924) found that when cod-liver oil was made alkaline and oxygenated it affected an air-tight photographic plate through a quartz window. Other workers failed to confirm this result. Drummond and Webster (*NATURE*,

vol. 115, p. 837; 1925) state that many substances undergoing autoxidation will fog a plate, vapour being given off. They suggest that in Kugelmass and McQuarrie's experiments the plate was not in an air-tight container, or alternatively that the fogging was due to the fused quartz emitting a phosphorescence. Daniels and Fosbinder (*Science*, Sept. 18, 1925, p. 266) repeated Kugelmass and McQuarrie's experiments and were unable to confirm them. Peacock found that cod-liver oil became fluorescent on exposure to a bright light and that there was possibly some relationship between its vitamin A activity and fluorescent power but none between the latter and its vitamin D content (*Lancet*, vol. 2, p. 328; 1926, and also Samson Wright, *J. Physiol.* vol. 61, p. 36). More recently Hugounenq and Couture (*Compt. rend.*, vol. 188, p. 349; 1929) found that cholesterol obtained from cod-liver oil darkened a photographic plate when in contact with it or separated by a quartz (but not a glass) plate.

ON June 1 the survey ship, H.M.S. *Challenger*, built by the Admiralty for the Ministry of Agriculture and Fisheries, was floated out of dock at Chatham. The ceremony was performed by Miss Addison, daughter of the Minister of Agriculture and Fisheries. The construction of this ship is the outcome of an interim report of the Fisheries Committee of the Economic Advisory Council, which recommended that His Majesty's Government should undertake an organised search for new fishing grounds. The ship, which has been specially constructed for exploratory work in northern waters, is an oil-burning vessel; 220 ft. in overall length, having a displacement of 1400 tons and a sea endurance of 9500 miles. The Hydrographic Department of the Admiralty will undertake the survey work, and it is hoped that important new fishing grounds will be discovered and charted. The name *Challenger* has very appropriately been chosen for the ship, to perpetuate the memory and the traditions of the famous voyage of H.M.S. *Challenger* in the years 1872-1876. That voyage is justly regarded as having laid the foundations of scientific research at sea. Although the new ship is not expected or intended to carry out, like her famous predecessor, a circumnavigation of the world, anyhow at present, and her immediate objective may make less appeal to the imagination, she starts with enormous advantages in the form of the most up-to-date equipment for scientific research, and may be counted on to maintain the high traditions associated with her name.

MR. A. COURTAULD'S own account of his five months' stay alone on the Greenland ice-cap was published in the *Times* of May 29. The party that arrived at the station to relieve the occupants in December was faced with the alternatives of abandoning the station or leaving only one man, since the supplies of food and fuel were not sufficient for more. Mr. Courtauld then offered to stay alone. The station was a tent, ten feet in diameter, with double walls and covered with snow, through which a metal ventilator protruded. Two snow houses reached by

a snow tunnel contained stores, and an outer snow wall enclosed the whole. Until March, all went well in spite of heavy winds and frequent gales, but on March 21 the station was completely snowed up, and from then until the relief on May 5, Mr. Courtauld was unable to leave the tent, in which he lived in darkness, without even sufficient light to see what he was eating. Observations, of course, had to cease when he was cut off from his instruments. Mr. Courtauld notes that the temperature in January was not very low, and that on one occasion it rose to 20° F. By the end of February colder and finer weather set in. Fifty degrees below zero was frequently observed. The lowest temperature recorded was 64° below zero. The strong winds were generally from the north-west. The station was so completely buried that Mr. Watkins' relief party found it only by the remains of its flag and its ventilator shaft projecting above a uniform plain of snow.

THE Very Rev. Dr. W. R. Inge, Dean of St. Paul's, delivered a Friday evening discourse at the Royal Institution on May 29 on "The Future of the Human Race". Dr. Inge described in outline the England of a thousand years hence as he would like to see it. The population has been stabilised at about twenty millions, and certificates of bodily and mental fitness are required of would-be parents. London remains as a large city, but the majority of the people live in villages and small towns. Mental and physical tests form a regular part of school and university training, and the results, with family histories, are registered. Physical perfection confers the prestige now given to social position. Most nations are nearly self-supporting and food is cheap and abundant. There are no wars and the functions of the central government are almost nominal. There are no opportunities for making large fortunes, and indeed there is no longer any motive for living pretentiously. Hours of labour are short, but serious hobbies are encouraged. Broadcasting has partly superseded lectures and concerts, and air travel has much extended, so that intercourse with foreign people is easy. Dr. Inge warned us, however, that civilisation contains the seeds of its own dissolution. Physical evolution seems to have come to a standstill. While the human brain was very immature, man began to use tools, and, if we do not take care, we are in grave danger of becoming parasites of our tools.

IN his Ludwig Mond lecture at the University of Manchester on May 19, Prof. William McDougall directed attention to the laggard progress in the biological sciences as compared with the rapid rate at which physical science had progressed since Galileo. Psychology, economics, political science, jurisprudence, sociology really mark gaps in our knowledge or fields of possible sciences that have as yet scarcely begun to take shape or being. These regions, in which chaos still reigns, must be reduced to order if our civilisation is to endure. The responsibility for the backwardness of the human sciences was apportioned by Prof. McDougall partly to the opposition of the churches, which he asserted still largely shape and control our

universities; to biological studies, which revealed man as a part of Nature, and to studies of his beliefs, superstitions, and customs; and partly to the general acceptance of the mechanistic theory. The discoveries of physical science have multiplied mankind and added immensely to the delicacy, intimacy, and importance of relations between men and groups, but have given no guidance in the handling of the new complexities. Prof. McDougall considers that only the biological, and especially the social sciences founded on biology, can save us from the grave disorder and chaos that threaten us. Social sciences must be actively developed into real sciences, and a science of human nature must be created. Our most powerful intellects should be diverted from physical sciences into research on the biological, human, and social sciences, the attack being concentrated first upon anthropology, and an attempt should then be made to build the social sciences—especially the science of economics—on the results of such anthropological research.

THE progress report issued by the Radiostat Corporation is of value, as it shows that considerable advances have been made in the development of Dr. Robinson's invention. To the general public the 'Stenode Radiostat' wireless receiving set will be of great interest, as it provides an instrument of high selectivity which will permit the hearing of broadcasting stations the wave-lengths of which are very close together. When put on the market, it will provide a means of largely increasing the number of stations receivable with good quality and without interference in a given locality. Under the broadcasting scheme adopted in Europe, the number of channels available between 200 and 550 metres is approximately a hundred, but the number of stations actually in use is greatly in excess of this. The difficulties arising from interference are surmounted to a certain extent by assigning certain channels to groups of stations all working upon the same frequency. In the United States, where there are far more broadcasting stations than in Europe, group working is only a partial remedy. It has been found necessary, in addition to grouping stations, to assign to each certain hours during which it is allowed to be in operation. The rapid increase in the number of high-power stations, both at home and abroad, is introducing still further complications. These stations have a considerable 'spread' at short and medium ranges. A receiving set designed for a nine-kilocycle selectivity may be completely paralysed if it is operated within twenty miles of stations like Brookman's Park, Daventry, or Moorside Edge. The owner of a large and expensive set of the older type will probably find, when the projected nine high-powered transmitters are working in Great Britain, that possibly Rome and Stockholm will be the only foreign stations that will be heard without interference.

THE third annual general meeting of the British Society for International Bibliography was held in the Science Museum, South Kensington, on April 16. The Society exists to promote the study of bibliographical methods and the classification of informa-

tion; to secure international unity of bibliographical procedure and classification; and to foster the formation of comparative and specialist bibliographies of recorded information. The Society is particularly interested in facilitating the adoption of the Universal Decimal Classification of the Institut International de Bibliographie, Palais Mondial, Brussels, of which Institut the Society is the British National Section. This system of classifying books and articles in periodical literature has been referred to in previous issues of NATURE. During the past year the Society has enjoyed very close relations with the Association of Special Libraries and Information Bureaux, and a Joint Committee of the two institutions is actively promoting the adoption of the Universal Classification. The membership of the Society includes representatives of most of the specialised branches of pure and applied science. Ordinary meetings are held from time to time, but the Society makes a special feature of assisting members by personal contact and correspondence in any problems of indexing literature with which they are concerned. Particulars may be obtained from the Secretary, British Society for International Bibliography, Science Library, Science Museum, South Kensington, S.W.7.

It is announced in *Science* for May 15 that the American Association for the Advancement of Science, and about twenty-five other scientific societies, will hold scientific sessions at Pasadena on June 15-20. This will be the eighty-eighth meeting of the Association and the first of a new series of annual summer meetings. The meeting will be under the presidency of Prof. Franz Boas, of Columbia University, who is known for his contributions to anthropology, and in his honour a special symposium on "The Antiquity of Man" has been arranged. Prof. Boas's presidential address will be on "Race and Progress". On June 17, Dr. Arthur Day, director of the Geophysical Laboratory of the Carnegie Institution of Washington, will speak on "The Present Status of Seismology"; on June 18, Dr. C. A. Beard, the historian, will speak on "Scientists and History"; and on June 19, a symposium on "The Impact of Science upon Civilisation, Past, Present, and Future", will be held. Another interesting symposium has been planned on "Oceanographic Problems", and will be conducted by Dr. T. Wayland Vaughan. A special session of the zoologists and biologists in honour of a former president of the Association, Dr. David Starr Jordan, who has just celebrated his eightieth birthday, has been arranged.

THE Annual Report for 1929-30 of the Scottish Marine Biological Association shows the laboratory of the Millport Marine Station to be in a flourishing condition. So much have its activities increased that more accommodation will almost certainly be required in the near future. Already four new tanks for live specimens have been added and more space has been made available for storage. Much good work has been done, as is shown by the list of published work. Miss S. M. Marshall and A. P. Orr have continued their researches in diatoms, studying for another year the spring increase in Loch Striven. H. B. Moore has been

investigating the sea mud in the Clyde sea area, with important results; and R. G. Neill has completed and published a paper on the habits and feeding mechanisms of the polychæte *Nephtys caeca*. Dr. J. A. Cranston and Dr. B. Lloyd have isolated one of the denitrifying bacteria from the Clyde sea area, the cultural characters of which do not conform entirely with those of any known species. This has been studied in detail and a type culture has been lodged with the National Collection of Type Cultures at the Lister Institute. Researches have also been made on the spat fall and rate of growth in certain molluscs, and shore surveys have been continued. Vacation courses for students are steadily growing in importance, and demonstrations or addresses have been given by the staff to classes and parties from various organisations.

A PROPOSAL for the institution of national parks in Africa for the preservation of wild life is made by Major R. W. G. Hingston in a paper in the *Geographical Journal* for May. The spread of cultivation, the demands of trade, and the activities of the sportsman are seriously depleting the fauna. Several large animals have been exterminated by human agency. They include the blaubok, the quagga, and Burchell's zebra. The white rhinoceros, the gorilla, the nyala, and Grevy's zebra are on the verge of extinction. Game reserves, of which several exist in Africa, are useful but not entirely effective, because they have not a permanent status. At present there are only two areas that have the status of national parks. These are the Kruger National Park in the Transvaal and the Parc National Albert in the Belgian Congo. Major Hingston outlines a scheme of nine other national parks. These are (1) South Central park, including the Kasungu game reserve in Nyasaland; (2) Nyala park, two small areas in the south of Nyasaland which are both reserves; (3) Selous park, now the Selous game reserve of Tanganyika, especially for the preservation of the elephant; (4) Serengeti park, to the south-east of Victoria Nyanza, which would shelter many species of grassland animals; (5) Kilimanjaro park, at present a game reserve; (6) Kenya park, to the south-east of Lake Rudolf; (7) Bongo park, on the Aberdare mountains north-west of Nairobi; (8) Bunyoro-Gulu park, now a reserve, on the north-east of Lake Albert, around the Victoria Nile; and (9) Gorilla park, in the Kivu district, for the preservation of the gorilla.

"THE Animal Year Book," vol. 1, 1931, is a work of information and of reference issued by the University of London Animal Welfare Society, the object of which is the furtherance of a "proper understanding of the right relationship between man and the lower animals". It contains an excellent summary of the law of Great Britain relative to cruelty to animals, a series of short notices of the state of animal welfare in some foreign countries, and useful articles upon various aspects of the cruelty problem. Occasionally there is a tendency to push propaganda at the expense of truth, as when the suffering of trapped fur animals is stated to be roughly comparable to crucifixion (p. 90), or when the snaring and trapping of rabbits are said to be on a par with the medieval torture of

human beings (p. 104); but such statements are exceptional, and the definite aim of the Society to deal with the prevention of cruelty in a reasonable way will commend itself to many sympathisers. In one of the book reviews—a special feature of the Year Book—reference is made to recently invented, and presumably effective, humane rat traps (p. 152). May we suggest that the illustration and description of such implements would make a most informative and useful appendix to such a work as this.

THE introduction of the fur-bearing musquash to Scotland for breeding purposes, and the subsequent escape from captivity of some of the animals, may have serious consequences. T. M. Munro states, in the *Scottish Naturalist* for May, that in three different areas musquash have escaped and have made themselves at home in the open. Indeed, in one area, near the banks of the Allan, as many as sixteen musquash 'houses' were in existence, until floods in 1929 washed most of them away. Other localities are at Thornhill, Dumfries, and on the Bervie water in Angus; but the present writer failed to trace any wild musquash in the latter district during a recent visit. The risk of the introduction is that the creature may find the climate congenial and may spread, to the destruction of river embankments and crops. On the other hand, it may find it difficult simply to keep up the standard numbers. We cannot tell; but it is wise in such a case to err on the safe side.

THE preservation of photographs of scenery and of natural history events has become an acknowledged part of the business of the great museums, and such collections may become invaluable for reference in the future. But their present value also is often very great. What could be more informative in its own line than the series of photographs published in the *Natural History Magazine* for April, illustrating the shelters and beds built by gorillas for their nocturnal rest? Few people have seen these simple structures and photographs of them are real additions to scientific knowledge. The pictures form part of an album of enlargements of photographs taken in the Beringa mountains, north-east of Lake Kivu, by Mr. Marius Maxwell, and they were presented by him to the Department of Zoology of the British Museum (Natural History).

THE conquest of a fatal disease, leukaemia, appears to be within sight. This disease is not common, though every hospital of any size is likely to have at least a case or two every year; it is characterised by an enormous increase in the leucocytes or white corpuscles of the blood. According to a recent *Daily Science News Bulletin* issued by Science Service, Washington, D.C., Dr. Hueper and Miss Mary Russell, working in the Cancer Research Laboratory of the University of Pennsylvania, have grown the leukaemic leucocytes in tissue culture outside the body, and treating rabbits with these cultures a serum is obtained which inhibits the increase of white cells *in vitro* and also in the body. One human case of the disease has been treated with this 'anti-leukaemic' serum, with remarkable improvement.

THE report of the Irish Radium Committee for 1930 was presented before a meeting of the Royal Dublin Society held on April 28. The recent purchase of an additional half gram of radium has rendered possible a large increase in the amount of radon available, with a consequent increase in the number of patients treated. The death of Dr. W. Stevenson, who was one of the pioneers of radium treatment, has, however, prevented the publication of his report on several hundred patients who were treated by him in 1930. Reports by other users give particulars of the treatment of 311 malignant and 44 non-malignant cases. In many cases highly satisfactory results were obtained. The difficulty of obtaining any information as to the state of patients who have returned to their homes in the country after treatment in Dublin hospitals presents, however, a serious problem.

REFERRING to the population problem of Tyneside, we suggested (*NATURE* of May 16, p. 756) that the situation might possibly be readjusted by revival of local industries instead of by loss of population. In this connexion, it is of interest to learn that the Department of Economics of Armstrong College, University of Durham, has undertaken, at the request of the Government, an economic survey of the industries of the north-east coast of England. The purposes of this research are to examine the existing industries of the area and to determine whether any of them are ever again likely to employ the same amount of labour as in the past, and to inquire into the possibilities of establishing new industries to absorb surplus labour. The conclusions arrived at will be put before the Council of Armstrong College towards the end of the year and forwarded to the Government. The Universities of Glasgow, Manchester, and Wales (Cardiff) have been asked to conduct similar surveys of their areas.

THE eighty-fourth annual meeting of the Palaeontographical Society was held at Burlington House, London, on May 29, Dr. F. A. Bather, president, being in the chair. The annual report recorded the publication of instalments of the monographs on Corallian Lamellibranchia, Gault ammonites, Palaeozoic Asterozoa, and macrurous Crustacea. It also announced the completion of the macrurous Crustacea in the next annual volume, and the publication of a second supplement to Girvan Trilobites. Prof. P. G. H. Boswell, Prof. H. L. Hawkins, Dr. C. J. Stubblefield, and Mr. W. E. Swinton were elected new members of council, and Dr. F. A. Bather, Mr. Robert S. Herries, and Sir A. Smith Woodward were re-elected president, treasurer, and secretary respectively. The president delivered a brief address on phylogeny and classification, during which he expressed doubts as to the value of a classification based on phylogeny.

THE Thomas Young Oration of the Optical Society will be delivered at the Imperial College of Science and Technology, South Kensington, on Thursday, June 11, at 8 P.M., by Sir John Parsons, who will take as his subject "Young's Theory of Colour Vision".

THE Huxley Memorial Lecture, 1932, of the Imperial College of Science and Technology will be delivered by

No. 3214, VOL. 127]

Mr. Aldous Huxley, on "Huxley as a Literary Man", in the Royal College of Science, Exhibition Road, S.W.7, on Wednesday, May 4, 1932, at 5.30 P.M.

AT the anniversary meeting of the Linnean Society of London held on Thursday, May 28, the following officers were elected:—*President*: Prof. F. E. Weiss; *Treasurer*: Mr. Francis Druce; *Secretaries*: Mr. John Ramsbottom (Botany) and Lieut.-Col. John Stephenson (Zoology). The Linnean Gold Medal was awarded to Prof. Karl Ritter von Goebel.

AT the spring convocation on May 6, the doctorate of laws was conferred by Queen's University, Kingston, Ont., Canada, on Dr. H. T. Güssow, Dominion Botanist and Chief of the Phytopathological Service of the Dominion of Canada. Dr. Güssow has also been honoured by being elected a fellow of the Royal Society of Canada.

PROF. C. H. DESCH has been appointed superintendent of the Metallurgy Department of the National Physical Laboratory, in succession to Dr. W. Rosenhain. Prof. Desch is at present professor of metallurgy, and Dean of the Faculty, in the University of Sheffield, and was formerly professor of metallurgy in the Royal Technical College, Glasgow. He is a past president of the Faraday Society and of Section B (Chemistry) of the British Association. Prof. Desch will not take up his new appointment until February 1932, as he had previously accepted an invitation from Cornell University to give a course of lectures there during the winter session of 1931-32.

THE following appointments have recently been made by the Governing Body to the staff of the Lister Institute of Preventive Medicine: Dr. A. Felix (research fellow in bacteriology), to be assistant in the Department of Bacteriology; Dr. J. M. Gulland (University demonstrator in chemistry at the University of Oxford), to be first assistant in the Department of Biochemistry in succession to Dr. R. Robison, who became head of the department on Jan. 1 last; Marjorie G. Macfarlane (Carnegie research fellow), to be temporary assistant in the Department of Biochemistry, and Adèle H. Rosenheim (Grocers' Company research student), attached to the same department; Douglas McClean (research fellow in bacteriology), to be assistant bacteriologist in the Department for the Preparation and Study of Antitoxic Sera, Elstree; Hester M. Jackson, to be temporary assistant in the Division of Nutrition; Dr. G. P. Wright, to be research fellow in experimental pathology.

WE have received from Messrs. James Swift and Son, Ltd., 81 Tottenham Court Road, W.1, their new catalogues of petrological microscopes and accessories for the petrological microscope. The former lists instruments of varying degrees of complexity, from the 'Primex' designed to meet the requirements of the student to the 'Dick' and 'Graham-Dick' instruments adapted to the needs of the advanced worker. In all the models, the fine adjustment with single milled head at the back has been retained, but one actuated by lateral milled heads will be supplied if desired. A stereoscopic binocular

on the Stephenson principle is also in the catalogue. Of accessories, we note a series of micrometers and Shand's recording micrometer, goniometers of various types and complexity, and drawing and illuminating apparatus.

A LIST (No. 16) of nearly 600 second-hand books of zoological, botanical, and horticultural interest has just been issued by Mr. J. H. Knowles, 92 Solon Road, S.W.2.

A SHORT list ("Periodica", Supplement 1) of scientific periodicals offered for sale by W. Dawson and Sons, Ltd., Pilgrim Street, E.C.4, has just reached us. It should be of interest to anyone wishing to add to their scientific library or to complete imperfect sets of periodicals.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A technical administrative officer under the Leeds Education Committee, for secondary and higher education—The Director of Education, Calverley Street, Leeds (June 10). A lecturer in the department of building of the Birmingham Central Technical College—The Principal, Central Technical College, Birmingham (June 12). A full-time teacher of electrical engineering subjects and chemistry at the Kingston-upon-Thames Junior Technical School—The Principal, Technical College, Kingston-upon-Thames (June 13). A head of the boot and shoe department of the County Technical College, Stafford—The Clerk to the Governors, County Education Offices, Stafford (June 20). A head of the department of industrial administration of the Manchester Municipal College of Technology—The Registrar, College of Tech-

nology, Manchester (June 22). A headmaster of the Exeter Junior Technical School—The Secretary for Education, 39 Southernhay West, Exeter (June 22). A temporary principal technical assistant in the Shellfish Services staff of the Fisheries Department of the Ministry of Agriculture and Fisheries—The Secretary, Ministry of Agriculture and Fisheries, 10 Whitehall Place, S.W.1 (June 22). A lecturer in economics in the Durham Colleges—The Secretary to the Council of the Durham Colleges, 38 North Bailey, Durham (June 23). Assistant lecturers in geology and mathematics in the University of Sheffield—The Registrar, University, Sheffield (June 24). A gas research Radiation, Ltd. fellow, at the Imperial College of Science and Technology—The Registrar, Imperial College of Science and Technology, South Kensington, S.W.7 (June 26). Junior lecturers in, respectively, vertebrate embryology and cytology in the University of Edinburgh—The Secretary to the University, Edinburgh (June 26). A laboratory steward in the physics department of the Imperial College of Science and Technology—The Secretary, Imperial College of Science and Technology, South Kensington, S.W.7 (June 30). A research student in biochemistry at the Lister Institute—The Secretary, Lister Institute, Chelsea Bridge Road, S.W.1 (July 1). A lecturer in chemistry and botany at the Studley Horticultural and Agricultural College for Women—The Principal, Studley College, Warwickshire. A young master for science and mathematics at the Beacon Hill School—Bertrand and Dora Russell, Harting, Petersfield. A senior science master at St. Lawrence College, Ramsgate—The Headmaster, St. Lawrence College, Ramsgate.

Our Astronomical Column.

Calendar Reform.—The *Scientific American* for June contains an article by G. Eastman strongly advocating the adoption of a year of thirteen months with 28 days in each, and an extra day at the end, not to reckon as a weekday; in leap year there would be a second extra day, which would be placed at the end of the sixth month; each month would always begin with a Sunday. There is no question that such a calendar would be convenient to such astronomers as have occasion frequently to reckon the interval in days between given dates; the want of system in the lengths of our present months, and the position of the leap day at the end of the second month, instead of the end of the year, are serious drawbacks. But the interruption of the regular sequence of weeks, which have now been running without a break for some three thousand years, excites the antagonism of a number of people. Some of these (the Jews, and also many Christians) accept the week as of divine institution, with which it is unlawful to tamper; others, without these scruples, still feel that it is useful to maintain a time-unit that, unlike all others, has proceeded in an absolutely invariable manner since what may be called the dawn of history. This view found strong support at the meeting of the International Astronomical Union at Rome in 1922; and it is unlikely that there will be, at least in the near future, sufficient consensus of opinion to enable the scheme described above to be carried through.

Mr. Eastman outlines a second scheme, which does not interfere with the week; this makes an ordinary

year exactly 52 weeks, and inserts an extra week every fifth year (with occasional variations, akin to the Gregorian centennial-year regulations). The fact of making some years a week longer than others would, however, involve difficulties in the regulation of salaries; the variation of the equinoxes and solstices by a week would also give trouble in meteorology.

To sum up: every scheme involves so many controversial points that it is unlikely that any change will be made unless the calendar reformers confine their demands to more moderate limits.

Light Variation of ϵ Aurigæ.—This star is of special interest from the great length of its eclipses (assuming, as is usually done, that the light-variation arises in this manner). *Astr. Nach.* 5784 contains a series of observations made at Bologna Observatory by Dr. L. Jacchia. The following are his dates for the phases: beginning of eclipse, May 13, 1928; beginning of stationary minimum, Oct. 22, 1928; middle of eclipse, April 25, 1929; end of stationary minimum, Oct. 25, 1929; end of eclipse, April 15, 1930. The light-variation includes secondary waves, their presence being confirmed by M. Gussow, using a photoelectric cell; as a result of them, the increase of light was slower than the decrease. The mean magnitude at maximum is given as 3.23; at minimum, 3.88. The extreme points on the light-curve are 3.13 and 3.94. Five stars in Auriga and Perseus, of magnitudes between 2.72 and 4.78 (Harvard) were used as comparison stars.