

sleeping sickness. Sleeping sickness and *nagana*, the kindred disease of domestic stock, are scourges which in greater or less degree, according to the physical and other conditions of localities, affect or threaten all countries and peoples in tropical Africa wherever the insect carriers of trypanosomes, the various species of *Glossina* or tsetse-flies, exist: that is to say, within roughly parallel lines drawn from the Senegal River to Somaliland, and from the southern boundary of Angola to Zululand in the south-east. In Africa to-day the tsetse-fly problem, with its contingent maladies, is more important than any other, and, in addition to its direct effect upon human life, is more than anything else retarding progress and development. Thus all European nations with a stake in the African continent, all those represented at the recent Conference, are vitally affected, and all are keenly alive to their danger.

Fortunately, with regard to sleeping sickness in general, there is no need to sound an alarmist note. Although in the Mongalla and Bahr-el-Ghazal Provinces of the Anglo-Egyptian Sudan, into which the disease has recently been introduced from French Congo, Belgian Congo and Uganda, the position is one of some anxiety; and though elsewhere, as in parts of Cameroons, French Equatorial Africa and Belgian Congo, there are foci of varying intensity, in no country nowadays is there anything comparable to the great epidemic of sleeping sickness that started on the northern shore of Lake Victoria in 1901. In the course of this outbreak the population of the districts affected, originally about 300,000, was reduced by two-thirds in six years. The energetic methods taken to combat the disease, including wholesale removals of natives, closing of areas, and clearing of lake and river margins, are too well known to need recapitulation. Their success is shown by the results detailed by Dr. G. D. Hale Carpenter, Senior Medical Officer in charge of Sleeping Sickness, Uganda, in his Report for 1920-21. In the course of a tour of inspection covering some 1750 miles, Dr. Carpenter examined no fewer than 54,600 natives, among whom he found only 264 cases of sleeping sickness.

Since the Uganda outbreak, the campaign has been waged energetically, often with a large measure of local success, not in British dependencies alone, but also in those of almost all other countries as well. It is impossible to read the Reports of the Committee of Experts, to which reference has already been made, without being filled with admiration for the work

carried out by the medical services and administrations concerned. In the matter of sleeping sickness, as it affects the native populations of Africa, "the white man's burden" has been shouldered with goodwill. In French Equatorial Africa the labours of the medical services, often sadly handicapped by insufficiency of personnel and equipment, and in the face of difficulties which only those familiar with the conditions of tropical African travel can fully appreciate, have been directed especially towards the systematic *atoxylisation* of the sick. This line of policy not only effects a proportion of cures in the early stage of the disease, but also—what is even more important—by removing the trypanosomes from the peripheral blood, prevents persons already infected from endangering their neighbours by way of the local tsetse. By means of this system excellent results have already been obtained, and in some instances great epidemic foci appear to have been stamped out; the method has already been introduced into Uganda by Dr. Carpenter. In the case of African natives, however, it is often difficult to ensure that no sick person contrives to escape examination by a medical officer on tour; and in this connexion it may be noted that the appointment, in threatened districts, of special administrative officers to deal only with sleeping sickness affairs, as is already the practice in the Lake Victoria area of Uganda, was urged emphatically by Dr. Carpenter in 1923.

Without entering further into the technicalities of the campaign against sleeping sickness as at present conducted, or dwelling upon well-known methods for the local abolition of *Glossina palpalis*—the most formidable but by no means the only tsetse-fly carrier of the disease—it is hoped that enough has been said to indicate some at least of the conditions as they now exist, before the appointment of the International Commission. At the recent meeting of the second Imperial Entomological Conference, at which the tsetse-fly problem was discussed, Dr. Andrew Balfour referred in optimistic terms to the beneficial results likely to accrue from "the association for a considerable time of two such brains as those of Dr. Kleine and Dr. Lyndhurst Duke." On the same occasion it was pointed out by Mr. Ormsby-Gore that the Commission is bound to have great educative value, not only on public opinion in Europe, but also on local administrations in Africa. We heartily wish it success.

E. E. A.

### Current Topics and Events.

IN February 1825, Faraday was appointed director of the laboratory of the Royal Institution, and his first act after appointment was to invite the members to evening meetings in the laboratory. These evening meetings developed into the Faraday evening discourses which have remained a feature of the Institution unto this day. It was accordingly very appropriate that the celebration of the centenary of the discovery of benzene by Faraday should be inaugurated on June 12 by the Friday evening discourse on "Faraday as a Chemist" by Sir William Pope. Elsewhere in this issue we print Sir William Pope's discourse together with papers read on the occasion of the centenary celebrations on June 16. Sir

William Pope first referred to Faraday's youth and early scientific training and then passed on to a brief discussion of his chemical investigations. Faraday analysed caustic lime from Tuscany, repeated and extended E. D. Clarke's work on the oxygen-hydrogen blowpipe, and he burnt diamonds. He discovered the substances now known as hexachloroethane, tetrachloro-ethylene, and hexachlorobenzene before he isolated benzene in 1825. Steel alloys and optical glass were studied for several years and a large number of gases were liquefied for the first time. He determined the composition of naphthalene and investigated the action of chlorine on benzene in sunlight, in this way discovering *p*-dichlorobenzene.

Gold films, solutions of colloidal gold and electrochemical researches nearly complete the list of his chemical investigations. Sir William Pope laid stress on the significance of the discovery of benzene in view of later important technical and scientific developments, and he referred to the marvellous suggestiveness of much of Faraday's work. He also described Faraday's pre-eminence as an experimenter, his greatness as a scientific theorist, his versatility, and his innate but undeveloped mathematical ability. The fruit of Faraday's labour has not yet all been gathered; a hundred years hence the Friday evening lecturer will have an even more wonderful tale to tell of discoveries inspired by the work and thought of Michael Faraday.

A SMALL but interesting exhibition has been arranged and is now on view at the Science Museum, South Kensington, commemorating the centenary of the discovery of benzene by Faraday. Amongst the exhibits shown at the Science Museum are two original specimens of benzene, prepared and labelled by Faraday, which were bequeathed to the Museum in 1911 by Mr. H. L. Barnard—it will be remembered that Faraday married Sarah Barnard—and an autographed photograph of himself which was bequeathed to the Museum by Miss Jane Barnard. The original cabinet in which Faraday stored the specimens of benzene and which contains many other specimens of his chemical discoveries, including the polished weldings of steel and platinum and the alloys produced with Mr. Stodart in 1821 in the search for a non-rusting steel, is also on view. Other interesting exhibits show the importance of benzene to the synthetic dye industry and illustrate the distillation of coal-tar, from which benzene is obtained on a commercial scale. A series of models of the principal space formulæ proposed for benzene, showing the relative space arrangements of the atoms within the molecule, is not only instructive but emphasises the importance with which benzene has been regarded since the time of its discovery.

THE trial in the United States of Mr. Scopes, for teaching evolution in a State-supported Tennessee school, promises to become a *cause célèbre*. It is attracting widespread attention, and a bewildering array of legal authorities has been enlisted on both sides. The defence is being financed by the American Civil Liberties Union, which has secured the help of many distinguished barristers, including Mr. Bainbridge Colby, a former Secretary of State in Wilson's cabinet. He will be supported by numerous advisers representing the Modernists, the champions of free speech, and scientific experts. Mr. W. J. Bryan will take part as one of the counsel for the prosecution. The Tennessee Text Book Commission has introduced a new text book of biology for use in the State schools, which states, in reference to animals resembling man, that "none of them are to be thought of as a source or origin of the human species." Take no thought of the past as well as of the morrow seems to be the desire of the Fundamentalists as to the history of man.

THE leading article in NATURE of June 6 on "An Imperial Research Committee" contained reference

to the possible effect of the salt-tax in India on the efficiency of the native population, the suggestion being that the taxation of this vital commodity had the effect of reducing its consumption. Dr. F. Maitland Gibson, lately director of the King Institute of Preventive Medicine in Madras, in a letter to the editor dated June 13, takes exception to this statement. During his twenty years' residence in India the salt-tax was never higher than one halfpenny per pound. The daily physiological requirement of salt per head of the population addicted to a vegetarian diet has been estimated at 30 grains. On that basis, the effect of the tax on the consumption of salt should be negligible. Even if the consumption of salt far exceeded physiological requirements the effect of the tax would scarcely be felt even by the poverty-stricken Indian, and should be a smaller factor in reducing consumption than the manipulation of prices by salt dealers. Dr. Gibson would probably agree, however, that political and psychological factors must also be taken into account in connexion with this tax. For political reasons—for example, non-co-operation—the Indian might refuse to buy any salt, while the fact that a certain commodity is taxed, to whatever amount, might also lead to greatly reduced consumption by peoples living continuously on the poverty-line. But whatever the effect of this particular tax, it can be argued that it is wrong in principle to tax vital commodities before other and more equitable means of raising revenue have been exhausted.

AN appeal has been issued from Government House, Nairobi, for subscriptions to the Coryndon Memorial Fund, with which it is proposed to improve and to extend the existing natural history museum in the Kenya capital. This is an object which should not only make its appeal to scientific workers on its intrinsic merits, but also because the late Sir Robert Coryndon was probably unique among British colonial governors in his appreciative understanding of the importance of scientific research and the educative value of carefully selected and properly cared for exhibits of naturalists. In spite of the pressing problems involved in the administration of the most difficult colony in British possession, he found time, in the year preceding his tragically sudden death, to make a comprehensive survey of the Victoria Nyanza territories and to furnish a stimulating and invaluable report to the Secretary of State for the Colonies, in which he stressed the importance of a unified research service for the Lake area. A few years before, while Governor of Uganda, he gave an impetus to medical and veterinary research, and to him can be attributed the growth of the scientific spirit in that Protectorate. Reference has been made already in NATURE to the appeal he made on November 20 last year to his fellow-countrymen for support for the Amani Institute. This formed part of a general plea for more generous encouragement of scientific research. The fact that on that occasion he specifically commended the enlargement and proper equipment of the Nairobi Natural History Museum to the attention of his

audience as a worthy object for support lends emphasis to the appropriateness of the projected tribute to his memory. His life was devoted to the service of the British Empire, and he had the highest conception of the function which science fulfils in its development.

IN connexion with our note of last week on Dr. J. W. L. Glaisher's jubilee of fellowship of the Royal Society, it is of interest to recall a long-forgotten episode as to the assistance he gave fifty years ago towards the publication of Peter Gray's "Tables for the Formation of Logarithms and Anti-Logarithms to Twenty-four or any less Number of Places," an 8vo work issued in 1876. Gray states that he allowed some manuscripts of his to lie by for a number of years owing to printing difficulties. At length an abridgment of his papers was made and communicated to the *Assurance Magazine*. These papers were afterwards collected and published in 1865. This tract, after some years, came under the notice of Mr. T. Warner, F.R.A.S., of Brighton, who opened a correspondence with Gray, and finally offered a most handsome contribution towards the expenses of printing the whole set of tables. Having (he says) mentioned the circumstance to two gentlemen interested in such matters, they each offered quite spontaneously a liberal contribution in supplement of Warner's gift. The two who gave this gratifying proof of interest were Dr. J. W. L. Glaisher, F.R.S., and Mr. H. D. Hoskold, a mining and civil engineer of Dean Forest, Gloucestershire. Dr. Glaisher made a number of valuable suggestions in the course of printing.

LAWRENCE ROOKE, astronomer and mathematician, who died on June 27, 1662, was an active member of the group who were concerned in the promotion of experimental philosophy. He was chosen to succeed Samuel Foster in the professorship of astronomy at Gresham College in 1652, and in 1657, upon Dr. Whistler's resignation of the chair of geometry at the College, was permitted to exchange that of astronomy for it. Educated at Eton, he was for a while at Cambridge, but in 1650 he transferred himself to Wadham College, Oxford, with the view of studying under Dr. Wilkins, then Warden, and Dr. Seth Ward, the Savilian professor of astronomy. It will be recalled that it was after one of Wren's lectures at Gresham College, in 1660, that the company "withdrew for mutual conversation into Mr. Rooke's apartment," there to discuss a project for a new college or society for physico-mathematical learning. At a meeting of the Royal Society on June 13, 1661, Rooke was desired to bring in a relation of the satellites of Jupiter and the height of the atmosphere. Next month he read his paper of observations of the eclipses of the satellites of Jupiter, for which thanks were given him. On October 9, 1661, Rooke, with Croune and Dr. Pope, were appointed a committee to view propositions for inquiries in foreign parts.

ROOKE's death, in his fortieth year, had a tragical aspect. The Marquis of Dorchester, who had a great

regard for him, was accustomed to entertain him at Highgate, bringing Rooke by coach on Wednesdays to the Royal Society's meetings at Gresham College. One day in the heat of early summer, Rooke walked into London (so we are told) and "took cold, which occasioned a fever, and that put an end to his life at his lodgings in Gresham College," on the very night, which he had for some years awaited, wherein to finish accurate observations of the satellites of Jupiter. So intent was he to the last upon completing his theory of that planet, wanting but one observation more (which might be made on the night of his death) to perfect that theory, he desired Dr. Pope to go to the Royal Society and request some person to do it. The Bishop of Exeter (Dr. Ward) intended to erect a monument to his memory, but instead of that gave the Royal Society, in memory of his friend, a large pendulum clock, by Fromantel, which was set up in the actual room at Gresham College where the circle of philosophers met; afterwards it was removed to the hall of the Society in Crane Court, Fleet Street.

AFTER an absence of four weeks, Captain Amundsen's aeroplanes returned to Spitsbergen on June 18, having reached lat.  $87^{\circ} 44' N.$ , long.  $10^{\circ} 20' W.$ , a distance of 136 miles from the Pole. Amundsen's preliminary account of the journey is published in the *Times*. The aeroplanes on leaving Spitsbergen encountered fog for a few hours, and when the weather cleared, were too far west. A more easterly course was laid, but it was decided to land in order to get definite bearings before continuing the flight, since at 1 A.M. on May 22, after eight hours' flying, half the petrol had been consumed. The only possible landing place was a water lane through the pack. Both planes were gripped in the ice, but eventually, after 24 days' work, one of them was released. It showed signs of strain but was undamaged. With a greatly reduced load it was possible to start this machine from a levelled stretch of ice on June 15. In  $8\frac{1}{2}$  hours, North Cape of Spitsbergen was reached, and there a passing sealer was met and carried the explorers to King's Bay. To the farthest point the planes flew 621 miles at an average speed of 93 miles per hour. Capt. Amundsen believes that but for a head wind causing leeway, he could have reached the Pole with the petrol he carried. The two 370 h.p. Rolls Royce Eagle IX engines of each aeroplane worked without a hitch. The geographical results of the expedition are practically confined to a sounding of 2051 fathoms at the place of descent. This confirms the conception, founded on Nansen's work, of a deep polar basin and dispels any probability of land on the European side of the Pole.

THE members of the Inter-State Post-Graduate Assembly of America visited Edinburgh on June 18-20. On June 18 the visitors assembled in the M'Ewan Hall, where an address of welcome was given by the Vice-Chancellor of the University, Sir Alfred Ewing, following which the honorary degree of LL.D. was conferred on Dr. Charles H. Mayo of

Rochester, Minnesota. During the three days clinics were arranged in the Royal Infirmary in the departments dealing with medicine, surgery, gynæcology, and the diseases of ear, nose, throat, and eye. There were also clinics in the Sick Children's Hospital and the Maternity Hospital. Demonstrations and exhibits were arranged by members of the staffs of the departments of surgery, midwifery, pathology, bacteriology, and tropical diseases of the University and of the laboratory of the Royal College of Physicians. An evening reception was given on June 18 by the Lord Provost, Magistrates and Council of the City at Inverleith House, kindly placed at their disposal by Prof. Wright Smith, Regius keeper of the Royal Botanic Garden, Edinburgh, and a visit was made to the historical apartments in Holyrood Palace on the afternoon of June 19.

THE Deutsches Museum von Meisterwerken der Naturwissenschaft und Technik at Munich, described in our issue of April 25, p. 611, was opened on May 7 with every mark of national rejoicing. The Museum, as its name implies, is devoted to applied science, and has for its aim the spread of knowledge of the great discoveries and inventions upon which rest the material civilisation of to-day. The festivities commenced on Tuesday, May 5, with a procession of allegorical cars, representing the principal branches of science, through the decorated streets of the city. On the day following the business meeting took place and was attended by ministers, mayors of large cities, leading industrialists, representatives of the Verein deutscher Ingenieure, of the universities, and of some foreign countries; the representative from England was Mr. H. W. Dickinson of the Science Museum, South Kensington. On May 7 a symbolical play, specially written for the opening by Gerhart Hauptmann, Germany's leading living poet, was performed.

THE Museum building, commenced in 1906, is an imposing structure, to the designs of Gabriel and Emanuel von Seidl, situated on an island in the river Isar. In plan the building is roughly 100 m. square, and the whole ground floor is occupied by exhibition space, but in the three floors above, a well 60 m. square gives the necessary lighting. The floor space amounts to about 35,000 sq. metres. At one corner is a tower 64 m. high, and there are three domes devoted to astronomy. The exhibits have been chosen with good judgment. Very great use is made of interiors, and as examples we may mention a scythe forge of 1803 from the Black Forest, the alchemist's laboratory of the middle ages, and a paper-mill of 1708. With these may be classed realistic representations of stone, ore, coal, and salt mining situated below the floor level of the Museum. Nor must mention of the planetarium in the astronomy section be omitted. By projection apparatus images of the fixed stars, or of the sun, moon, and planets, are thrown on a domed ceiling, and their apparent motion over a long period is reviewed in a few minutes. The apparatus has created the keenest interest, and several similar instruments have been ordered; we should like to see such an apparatus set up in Great Britain. The

Museum is in no sense a State institution, but owes its existence mainly to the labours of Ing. Dr. Oskar von Miller, a well-known electrical engineer, now in his seventy-first year. It is a monument of what can be done by personality, scientific knowledge, ordered imagination, and organising ability, even when interrupted by the War, the subsequent revolution, and the inflation of the currency.

THE Department of Scientific and Industrial Research is carrying out a series of investigations into adhesives. Some of this work has direct industrial application; some of it is of the nature of purely scientific research, *e.g.* investigations into the chemistry of gelatin and the mechanism of adhesion. It is hoped that the more strictly scientific investigations will enlarge the present range of industrial application. It has now been suggested by a prominent firm in the industry that it should be brought into closer contact with the fundamental scientific work, and it is prepared to contribute towards the cost. The Department has accepted this suggestion and is prepared to make similar arrangements with other interested firms for this part of the work, and to furnish progress reports from the Committee in charge, on the understanding that they will on their part communicate any information of general interest they may obtain from their own investigations based upon the results of the Committee's researches. Particulars of the scheme can be obtained from the Secretary, Department of Scientific and Industrial Research, 16 Old Queen Street, Westminster, S.W.1.

ONE of the main functions of the Fuel Research Board of the Department of Scientific and Industrial Research is a survey and classification of the coal seams in the various mining districts by means of physical and chemical tests in the laboratory, supplemented where desirable by large scale tests at H.M. Fuel Research Station, East Greenwich, or elsewhere. The Board has decided that the best way to carry out this work is by means of local committees representing the local colliery owners and managers, the local branch of the Institution of Mining Engineers, the Fuel Research Board, and the Geological Survey of Great Britain, as well as outside scientific interests. Each committee is charged with the duty of supervising the work of the physical and chemical survey in a coal mining area; and in this way the survey becomes of practical value from the commencement, since local knowledge and experience are made available, and the seams to be investigated and the general programme of work are decided by those who are able to estimate most correctly the relative importance of the problems to be solved. The seams selected undergo physical and chemical examination by local investigators appointed for the purpose, after which a final selection is made of those seams likely to justify experiments on a technical scale in order to test their suitability for particular uses or methods of treatment. Committees have for some time been actively at work in the Lancashire and Cheshire and in the South Yorkshire areas, and another committee has recently been appointed to deal

with the North Staffordshire area. The North Staffordshire Colliery Owners' Association and the North Staffordshire Institute of Mining Engineers are co-operating in the work.

THE British Museum (Natural History) is to be congratulated on the rapid progress which is being made with the issue of its series of picture postcards illustrating various aspects of natural history. The latest additions include two further series in colour of British birds (summer visitors), an additional two series, also in colour, of British flowering plants, a set of restorations of fossil reptiles, a group of British Crustacea, and a series illustrating colour change in flat fishes, the last three series in black and white. Of these, the most interesting, because perhaps the most original, are those of the fossil reptiles. They are reproduced from drawings made by Miss Alice B. Woodward, and are remarkably natural in their general effect, suggesting a much less virile and more decadent group of animals than the majority of restorations tend to convey. The cards are admirably and clearly reproduced, and maintain the high standard set by their predecessors.

THE Trustees of the British Museum have published a second edition of the valuable handbook to the ethnographical collections which has been out of print for some little time. Mr. T. A. Joyce is again responsible for the text—in this edition with the assistance of Mr. H. J. Braunholtz. Where necessary the text has been modified to bring it into agreement with the growth of anthropological knowledge since the first edition was published in 1910, and a certain amount of supplementary matter has been added. The most considerable addition, however, is in the illustrations. Eighteen text-figures have been added, making two hundred and ninety-three in all, and five plates, bringing the total number up to twenty. Of these illustrations the most interesting are those figuring additional examples of African art, and in particular may be mentioned the very fine ivory mask from Benin. Notwithstanding the increased cost of printing, the price of the handbook has been raised from two shillings to two and sixpence only. Even in the board covers which have taken the place of the cloth of the earlier edition, this is remarkable value.

THE report for 1924 of the Director of the National Botanic Garden at Kirstenbosch, South Africa, records a gallant struggle to continue the development of this wonderful garden site near Cape Town in the face of great financial difficulties. It is, however, regrettable to learn that during the year expenditure upon the Garden, already ridiculously small, had to be cut down owing to reduced revenue, the Government contribution to revenue remaining at the same figure as previously. The University of Cape Town has now established the Bolus Herbarium at Kirstenbosch on a site allotted by the Trustees of the Garden, so that facilities for scientific work on the spot are considerably improved. During the present year, with aid from the Government on the pound for pound principle, the Harold Pearson Memorial Hostel should

be completed, with accommodation for a lady warden and about ten residents and servants.

THE Kew Hand-Lists of Herbaceous Plants were issued in the first place to show what species are actually grown at Kew, and also to reduce, if possible, the nomenclature in use in gardens to something like a standard. Possibly on account, particularly, of this second aim, the Kew Hand-Lists have always been found of very general use, and the second edition of the Hand-List of Herbaceous Plants, issued in May 1902, has long been out of print. A new edition appeared in January of this year, but this appears as three lists, (1) Herbaceous Plants, (2) Rock Garden Plants, (3) Hardy Monocotyledons. A new edition of the Hand-List of Trees and Shrubs (excluding Coniferae) grown in Kew has also been prepared. This list has been revised in accordance with the International Rules of Nomenclature.

THE subject of climatic changes is arousing great interest in the United States at present, and is being attacked along several different lines. Palæo-climatology is a borderland science; it lies between meteorology, geology, botany, and zoology, and no specialist in only one of these subjects can be fully qualified to deal with all aspects of the problem. It is a case for team-work, and we accordingly welcome the publication, in the *Scientific Monthly* for May, of a series of papers read at the December meeting of the American Association for the Advancement of Science on the subject of "Ancient Climates." Meteorology is represented by Dr. W. J. Humphreys, who gives an account of the possible causes of climatic changes, and glacial climatology by Dr. E. Antevs, while S. S. Visser presents an account of Huntington's "Solar-cyclonic hypothesis." Prof. A. P. Coleman deals with the geological aspects of ice-ages, Dr. T. W. Stanton reports on the Mesozoic invertebrates, and Dr. David White discusses the plants of the Upper Palæozoic. The papers are sufficiently interesting taken by themselves, and are rendered more so by their juxtaposition, but the reader is not given any help in considering their bearing on each other. We should like the authors to have met round a table afterwards, and to have formed themselves into a committee with power to co-opt representatives of other sciences such as chemistry and astronomy. A joint report by such a committee would be of outstanding importance in the study of ancient climates.

THE Academy of Sciences of Russia will celebrate its bi-centenary at Leningrad and Moscow between September 6 and 14 next. Foreign representatives are being invited and will receive special hospitality.

A SPECIAL general meeting of the Royal Astronomical Society will be held in the rooms of the Society on Friday, July 24, at 4.30 P.M. It is hoped that a number of foreign astronomers who will be in England in connexion with the meeting of the International Astronomical Union will be present and will speak about their work.

MR. L. S. AMERY, Secretary of State for the Colonies, has consented to receive at the Colonial Office, on

July 7, a deputation which will discuss with him the question of the further development of the work of the Imperial College of Tropical Agriculture for the whole Empire. The deputation, which will be introduced by Lord Burnham, will be of a thoroughly representative character.

WE much regret to announce the deaths of Mr. W. J. Dibdin, formerly chief of the Chemical and Gas Department, London County Council, and a leading authority upon the subject of purification of sewage by micro-organisms in contact and slate beds, on June 9, aged seventy-four years, and of Mr. D. B. Dowling, geologist on the Canadian Geological Survey since 1891, who was known for his work on the formation of coal, aged sixty-six years.

ACCORDING to the Singapore correspondent of the *Times*, the Council of the King Edward the Seventh College of Medicine has announced that the Rockefeller Foundation has presented to the college 350,000 dollars for the endowment of chairs of bacteriology and biochemistry, on condition that the Government founds an extra chair of biology and agrees to equip and maintain the three departments.

THE seventy-eighth annual meeting of the Palaeontographical Society was held at Burlington House, London, on June 19, Mr. E. T. Newton, president, in the chair. In the annual report of the council, regret is expressed at the decreasing support received from English public libraries and local societies, but the renewal of subscriptions from the countries of central Europe and new subscribers from the United States of America are noted. New monographs of the Upper Eocene Flora and of Dendroid Graptolites were announced. Prof. H. L. Hawkins and Messrs. L. R. Cox, A. W. Oke, and G. W. Young were elected new members of council. Mr. E. T. Newton was re-elected president, Mr. Robert S. Herries was re-elected treasurer, and Sir A. Smith Woodward was re-elected secretary.

LORD BALFOUR is to deliver the presidential address at the statutory meeting of the recently formed Institute of Philosophical Studies, to be held at the Royal Society of Arts on June 29 at 4.30. The Institute has the patronage of an imposing array of names. The objects are excellent but very indefinite as set forth in the only prospectus we have received. If the aim of philosophy is "to see life steadily and to see it whole," and if the directors in furthering this aim propose "to disentangle our beliefs from a confused jumble, and to purify them of a great many irrelevancies," it would be useful if they would give some definite idea of their mode of procedure. The Institute does not propose to compete with the universities, though it will arrange lectures in all branches of philosophy and encourage research in any of its departments.

BULLETIN No. 12 (1924) of the New South Wales Department of Mines deals with coke and the by-products arising from its manufacture. The text contains numerous statistics and is well illustrated by photographs. After a brief historical introduction,

the various coals and types of ovens are described, followed by detailed descriptions of the coking process as carried out in various Australian works.

WE have received a copy of Circular No. 12 of the Engineering Experiment Station of the University of Illinois, entitled "The Analysis of Fuel Gas." The pamphlet gives a description of the apparatus developed at the University of Illinois for the purpose of analysing fuel gas, and contains a synopsis of the methods best adapted to this type of apparatus. These methods are in the order of procedure necessary for carrying out the analysis. A comprehensive review of methods to be used with other types of apparatus is included in the appendix of the circular, which may be obtained from the Engineering Experiment Station, Urbana, Illinois.

THE April catalogue of Mr. C. Baker, of 244 High Holborn, London, W.C. 1, contains full descriptions of more than 2500 pieces of second-hand scientific apparatus. The photographic section, which was included in recent catalogues, has been omitted, and is to be published as a separate pamphlet in accordance with the pre-War custom. The present catalogue is noteworthy on account of the wide selection of astronomical instruments offered for sale. These include reflecting and refracting telescopes, mounted both equatorially and in the altazimuth manner, transit and meridian instruments, object glasses and eyepieces, mirrors and flats, stands and mountings, sidereal clocks, etc. The number of instruments of each type is exceptionally large, the equatorial refractors, for example, numbering twelve, and ranging in aperture from 3-in. to 8-in., and in price from 35*l.* to 595*l.* A 7-in. Cooke photo-visual refractor with accessories is included. All the instruments advertised are guaranteed to be in adjustment.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A part-time assistant-lecturer (woman) in hygiene (infant welfare work and personal hygiene) and demonstrator in bacteriology at King's College for Women (Household and Social Science Department), Campden Hill Road, W.8—The Secretary (June 30). Two assistant lecturers (one with special qualifications in science) in the department of education of the University College of the South-west of England, Exeter—The Registrar (July 2). A second assistant in zoology in the University of Aberdeen—The Secretary (July 8). An assistant in pathology in the University of Aberdeen—The Secretary (July 8). An assistant in the Nautical Almanac Office—The Secretary, Civil Service Commission, Burlington Gardens, W.1 (July 9). A demonstrator in chemistry in the University of Aberdeen—The Secretary (August 8). A lecturer in education in the University of Manchester—The Internal Registrar. An assistant in the department of geology of the Queen's University of Belfast—The Secretary. A lecturer in biology with special qualifications in zoology, and a lecturer in chemistry, at the Portsmouth Municipal College—The Secretary, Offices for Higher Education, Municipal College, Portsmouth.