

Holland the use of blue glass has, moreover, been extended to cow-houses with beneficial results. The glass, although of a distinctly different tint from Calorex, appears to share with the latter to some extent its power of absorbing the infra-red radiation of the sun, so that temperature effects may be partly responsible for the positive results obtained. The value of yellow glass cannot, however, be ascribed to such an effect. More information is obviously required on this most practical problem.

- ¹ NATURE, 125, 780, May 24, 1930.
² NATURE, 125, 529, April 5, 1930.
³ NATURE, 125, 780, May 24, 1930.

University and Educational Intelligence.

BIRMINGHAM.—The vacancy caused by the retirement of Prof. F. W. Burstall from the chair of mechanical engineering has been filled by the appointment of Mr. Samuel Lees. Mr. Lees studied at Manchester College of Technology and St. John's College, Cambridge. He took the Mathematical Tripos and afterwards did research under the late Prof. B. Hopkinson, being elected to a fellowship of St. John's College in 1912. He was Hopkinson lecturer in thermodynamics at Cambridge (1919–29) and director of engineering studies at St. John's College (1924–29). Since 1929 Mr. Lees has been consulting engineer to Messrs. Silica Gel, Ltd.

LEEDS.—The University has instituted a diploma in public administration, the course of study for which will commence in October 1931. The course will extend over two winter sessions.

SHEFFIELD.—The Council of the University has decided to appoint a professor of electrical engineering. It is hoped to make the appointment in time for him to take over his duties in the early part of 1932.

MR. SIDNEY WEINTROUB, of St. John's College, Oxford, has been appointed an assistant lecturer in physics at University College, Southampton.

The Wilbur Wright memorial lecture of the Royal Aeronautical Society will be delivered on Wednesday, Sept. 16, at 9.15, in the Science Museum, South Kensington, by Mr. Glenn Martin, who will take as his subject "The Development of Aircraft Manufacturing".

The following scholarships for 1931 have been awarded by the Institution of Electrical Engineers: Duddell Scholarship (annual value £150; tenable for 3 years): C. H. W. Clark (Sevenoaks Grammar School); Silvanus Thompson Scholarship (annual value £100, plus tuition fees; tenable for two years): C. H. Lackey (Messrs. A. Reyrolle and Co., Ltd.); David Hughes Scholarship (value £100; tenable for 1 year): G. L. d'Ombain (City and Guilds (Engineering) College); Salomons Scholarship (value £100; tenable for 1 year): S. H. Padel (Manchester College of Technology); War Thanksgiving Education and Research Fund (No. 1): grants of £50 each to F. J. Clark (East London College) and J. H. Wagstaff (University College, London); Thorrowgood Scholarship (annual value £25; tenable for 2 years): P. W. Ottley (Underground Electric Railway Company of London, Ltd.); Paul Scholarship (annual value £50; tenable for 2 years): W. T. Darwin (L.C.C. School of Engineering and Navigation).

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Birthdays and Research Centres.

Aug. 16, 1863.—Prof. F. S. KIPPING, F.R.S., professor of chemistry in University College, Nottingham.

Nearly thirty years ago the study of some organic derivatives of silicon was commenced, with the primary object of proving that compounds of the type $\text{SiR}_1\text{R}_2\text{R}_3\text{R}_4$ existed in enantiomorphously related, optically active forms. During the progress of this work, various interesting by-paths were encountered and, with the help of many students, some of these have been partly explored. The results have indicated that silicon analogues of many of the more important types of carbon compounds cannot be obtained, and that silicon is incapable of uniting with itself, with carbon, or with oxygen, by a 'double bond'. On the other hand, the formation of chains of silicon atoms, linked together directly or by an atom of oxygen, often takes place with unexpected facility, giving highly complex products, many of which cannot be isolated and identified.

Aug. 19, 1868.—Prof. W. BULLOCH, F.R.S., Goldsmiths' professor of bacteriology in the University of London.

Ever since Lister (1869) introduced into surgery the principle of the antiseptic absorbable ligature in the form of catgut, this has always been a problem. Some years ago I was requested by the London Hospital authorities to investigate complaints regarding the sterility of samples of catgut sold in commerce. Much of the 'sterile' catgut was found not to be so, and the catgut sold by several manufacturers was found indeed to be uniformly (100 per cent) infected and presumably harmful. To remedy this so far as my own hospital was concerned, I carried out a systematic investigation of the methods of sterilising catgut, and this involved testing more than 30,000 ligatures. Two methods were found to be effective in producing sterile catgut. In conjunction with Messrs. Lampitt and Bushill, of the laboratories of J. Lyons and Co., a report was issued by the Medical Research Council, and the result was that surgical catgut was brought under the Therapeutic Substances Act, and the tests we had laid down were enforced. Two years' experience of the new conditions relative to the manufacture of surgical catgut in England and abroad has shown that at the present time the catgut is much better than was previously the case, and the risk of ligature infection in surgical operations has been greatly diminished.

In my leisure I devote my time to the study of the history of the sciences associated with medicine.

Aug. 19, 1874.—Prof. A. H. REGINALD BULLER, F.R.S., professor of botany in the University of Manitoba.

I am interested in the relations of fungi with various animals; and two species of Fungi Imperfecti, which attack and kill large numbers of larval nematode worms (*Strongylus* species, parasites of the horse) as these wriggle about in horse dung, are being investigated in my laboratory.

My chief occupation just now is the completion of the manuscript and the illustrations for another volume of my "Researches on Fungi". This volume, in part, will treat of *Pilobolus* and the ocellus function of its subsporangial swelling, *Sporobolomyces* regarded as a basidiomycetous yeast, *Tilletia tritici*, which causes the stinking smut disease of wheat, and *Sphaerobolus stellatus*, a small gasteromycete allied to the puff-balls, which can shoot its ball of spores a horizontal distance of eighteen feet.

Aug. 19, 1885.—Prof. A. J. CLARK, F.R.S., professor of materia medica in the University of Edinburgh.

We know something of the metabolism of the skeletal muscles, but practically nothing about the metabolism of cardiac and plain muscles. The latter group is, however, more important in certain respects than is the former.

The differences in function shown by the different types of muscles make it probable that their metabolic processes differ widely. Skeletal muscle is a very highly specialised tissue, whereas cardiac and plain muscles are somewhat less specialised. The metabolic processes of the latter group deserve, therefore, far more attention than they have hitherto received.

Societies and Academies.

CRACOW.

Polish Academy of Science and Letters, May 4.—I. Neyman and E. S. Pearson: The problem of k samples.—W. Goslawski and L. Marchlewski: The absorption of ultra-violet radiations by certain organic substances.—K. Dziewonski and St. Pizoń: A new method of synthesis of dinaphthopyrone. Dibenzoxanthone can be obtained directly by the interaction of β -naphthol and carbanilide or thiocarbanilide.—Mlle. Bron. Młodzianowska: The earliest stages of the development of *Cysticercus fasciolaris* of the larva of *Taenia taeniaeformis*.—S. Skowron and T. Pawlas: Observations on the influence of gonacrine on the organism.

June 12.—St. Mrozowski: The hyperfine structure of the resonance line of mercury (2).—S. Szczeniowski and L. Infeld: The effect produced by a cloud of electrons on the structure of the de Broglie wave.—Mlle. A. Dorabalska: Microcalorimetric measurements of the period of polonium. The period found by this method was 137.6 days.—M. Hlasko: The differences between the conductivity coefficients of strong electrolytes in the same solvents.—M. Hlasko and W. Klimowski: The conductivity of certain mineral acids and the mobility of the hydrogen ion.—K. Dziewoński, W. Kahl, and Z. Olszewski: Study of the compounds derived from naphthalic acid. The synthesis of 3, 4-dihydroxynaphthalic acid.—E. Mnich: The phosphorus compounds of plants (6). The solubility of the phosphorus compounds of bean flour and the faculty of phytine of combining with protein substances which it contains.—Tymrakiewicz: The stratigraphy of the peat bog situated near Dublany, Olesko, and Opaki. Three climatic periods were shown by pollen analysis.—J. Jarocki and A. Demianowicz: The presence of a Ponto-Caspian amphipod, *Chaetogammarus tenellus*, in the waters of the Vistula.—L. Ejsmont: The identity of *Proshystra rossittensis* and of *Tanaisia fedtschenkoii* with some remarks on trematodes with united caeca.—J. Hirschler: Observations concerning the reciprocal influence of insects.—Z. Grodziński: The development of the blood vessels in the pectoral fin of fishes belonging to the genus *Salmo*.—F. Rogoziński: Experimental rickets (3). The influence of ammonium chloride on the mineral metabolism of the rachitic rat.

GENEVA.

Society of Physics and Natural History, May 7.—Albert H. Du Bois: Variations of the blood serum albumins under the influence of reticulo-endothelial blocking. In the rabbit, blocking the reticulo-endothelial system with 2 per cent Chinese ink by endovenous injection (1 c.c. per day) affects the proportion

of the blood serum albumins. The serin diminishes, the globulin increases, and the ratio serin to globulin tends to be inverted. Moreover, the colloido-osmotic pressure of the blood serum falls as a result of the loss of serin.—Ch. Eug. Guye: The lower limit of physico-chemical phenomena. A physico-chemical phenomenon is first defined as that of which the complete interpretation reduces in the final analysis to ideas of space, time, and matter, ideas which have been established by experiments on a macroscopic scale. In the field of intra-atomic and quantic phenomena, these ideas appear to lose all exact experimental meaning, and the question arises as to how far they can be rightly applied in a field which is not their field of origin. Planck's constant appears to limit physical chemistry on our scale; beyond this, all is mystery. It is a great temptation to find in this indefiniteness the origin or the causative principle of the organisation of life and thought. M. Guye recalls, moreover, in this connexion, that when a material system contains only a small number of molecules (micelles, filterable virus, etc.) the statistical fluctuations then assume considerable importance and the intimate nature of the individual molecular actions ought to be made clearer.—P. Balavoine: A formula for the determination of the alcoholic strength of brandy. The author gives a simple formula for determining the alcoholic percentage to 0.1 per cent in a liquid containing between 30 and 70 per cent of alcohol, and not containing more than 10 grams of extract (syrup, etc.) per litre.

SYDNEY.

Linnean Society of New South Wales, April 29.—Frank A. Craft: The physiography of the Shoalhaven river valley. (1) Tallong-Bungonia. A topographic survey of the Tallong district reveals three major series of features—a peneplain level at 2200 feet, an incomplete peneplain or series of very flat valleys at 2000 feet, and deep gorges which come within 350 feet of sea-level. From consideration of the land forms it is concluded that the surface of the tableland was elevated to its present altitude by a series of uplifts, of which the most recent has been largely responsible for the formation of the deep gorges.—H. M. R. Rupp: Further notes on the orchids of the South Maitland coalfields, with description of a new *Dendrobium* from Bullahdelah. The occurrence is noted of *Calochilus cupreus* Rogers in New South Wales, and its confusion with *C. campestris* R. Br. is discussed. Several interesting teratological orchid forms are recorded, also a hybrid *Pterostylis ophioglossa* R. Br. \times *Pt. concinna* R. Br. The identity of *Pt. Mitchellii* Lindl. is considered, and a striking form at present included under *Pt. pusilla* Rogers is described as a new variety. The new *Dendrobium* from Bullahdelah is closest to *D. speciosum* Sm. and *D. Kingianum* Bidw.—H. L. Jensen: Contributions to our knowledge of the Actinomycetales. (1) A case of hereditary variation in the genus *Actinomyces*. A soil micro-organism (probably identical with *A. polychromogenes* Vallée) normally forms cells resembling corynebacteria or mycobacteria. A variant, appearing as long, branched filaments of an entirely *Actinomyces*-like character, arises spontaneously in cultures of the former type. Besides this, several other variants are produced, partly spontaneously, partly experimentally. The bearing of these and similar phenomena on the taxonomy of the genus *Actinomyces* and related genera is discussed.

May 29.—A. M. Lea: On Baridiinae (Curculionidae); mostly from New Guinea. The paper consists of descriptions of sixty-seven new species of weevils from New Guinea (including a new genus), Aru, Fiji, Malay