

clusions on Housing our Workers," at the Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W. The admission to all lectures is free.

THE calendar for the current session of Armstrong College, Newcastle-upon-Tyne, one of the constituent colleges of the University of Durham, is now available. Since August, 1914, the buildings of the college have been in the occupation of the War Office, and the various departments of the college are housed temporarily in different buildings throughout the city. The arrangements for the session follow the general lines of previous years. Complete courses of study leading up to degrees in pure and applied science have been provided. Students who wish to graduate in applied science may take up one of the following branches: general mechanical, marine, civil, or electrical engineering, naval architecture, mining, and metallurgy. Such a degree is accepted by the Institution of Civil Engineers in lieu of their examination for associate membership, and by other corporations. Courses are also provided in preparation for degrees in commerce. A gratifying characteristic of the work done in the college is the active co-operation of employers of labour in the district, who have made it easy for students to obtain experience of workshop conditions during or after their college course.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, September 27.—M. Ed. Perrier in the chair.—Paul Appell: A second form of Θ functions of the fourth degree.—Henry Le Chatelier and Jules Lemoine: The heterogeneity of steels. An account of the application of an etching reagent proposed by Stead (methyl alcoholic solution of cupric and magnesium chlorides containing hydrochloric acid), with details of the proportions found to give the best results. Nine reproductions of microphotographs accompany the paper.—J. Haag: A system of differential formulæ concerning the elements of a projectile submitted to a quadratic resistance of air.—Charles Rabut: The calculation of the strength of a beam reinforced with metal bands.—P. Vaillant: The laws of flow of liquids in drops. The weight of a drop from a given orifice depends on the number of drops per second. It is proved that the weight of a drop is a parabolic function of the frequency of fall, and experimental data are given in support of this.—P. W. Stuart Menteath: The Permian of the western Pyrenees.—Jules Welsch: The Pliocene lignites of Bidart, Lower Pyrenees. South of Biarritz there are deposits of lignite the age of which is near to the Middle Pliocene.—R. Chudeau: Rain and vapour pressure in western and equatorial Africa.—J. Bergonié: A new method of physical treatment of the after results of wounds: pneumatic pulsatory massage. A detailed description of the mode of application of mechanical massage to the treatment of masses of cicatricial tissue. Particulars of the results obtained will be published later.—P. Portier: The resistance of certain races of *B. subtilis* arising from insects to chemical reagents. The organisms, isolated from the larva of *Tenebrio molitor* and the chrysalis of *Myelois cribrella*, prove to survive very drastic treatment, including 50 hours with 5 per cent. phenol, 25 hours with 20 per cent. formaldehyde, 95 per cent. alcohol more than fourteen months, boiling chloroform, and other reagents. This resistance to chemical reagents is greater than any hitherto observed, and has a direct bearing on the problem of sterilisation of instruments and bandages.—J. Wolff and Mlle. Nadia Rouchelmann: The properties of a chromogen univers-

ally distributed in plants.—A. de la Baume Pluvinet: The use of Hughes's induction balance for the detection of projectiles in the wounded.

BOOKS RECEIVED.

Department of Agriculture and Technical Instruction for Ireland. Suggestions for the Teaching of the First Year's Syllabus in Experimental Science for Day Secondary Schools. By E. P. Barrett. Pp. 19. (Dublin: Browne and Nolan, Ltd.)

Armstrong College, Newcastle-upon-Tyne. Calendar, Session 1915-16. Pp. 523. (Newcastle-upon-Tyne: Armstrong College.) 1s.

Five Figure Mathematical Tables. Compiled by E. Chappell. Pp. xvi+320. (London: W. and R. Chambers, Ltd.) 5s. net.

DIARY OF SOCIETIES.

THURSDAY, OCTOBER 7.

EUGENICS EDUCATION SOCIETY, at 5.15.—Eugenics and the Doctrine of the Super-man: Prof. J. A. Lindsay.

FRIDAY, OCTOBER 15.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—The Theory of Grinding, with reference to the Selection of Speeds in Plain and Internal Work: J. J. Guest.

CONTENTS.

PAGE

Practical Engineering	139
Botany and Gardening Books. By F. C.	140
New Methods and Old. By R. & L. H.	141
Our Bookshelf	142
Letters to the Editor:—	
The Masses of Heavenly Bodies and the Newtonian Constant.—Dr. P. E. Shaw	143
The Spectrum of X-Rays.—Prof. B. Cabrera	144
Studies of the Cotton Plant.—W. Lawrence Balls; The Reviewer	144
The Karakoram Expedition. (Illustrated.) By T. H. D. L.	145
The Effect of Radium on the Growth of Plants. By Dr. E. J. Russell	147
Prof. E. A. Minchin, F.R.S.	148
Dr. T. Albrecht	150
Notes	150
Our Astronomical Column:—	
Measures of Jupiter	154
The Rotation Period of Certain Jovian Markings	154
R. Coronæ Borealis	154
A 10-inch Diffraction Grating	154
The Solar Physics Observatory, Cambridge	155
Long-Distance Wireless Telephony	155
Experiments on Homing	155
The Institute of Metals	156
On the Functions of the Cerebrum	156
Geology at the British Association. By W. L. C.	157
Corresponding Societies at the British Association. By Wilfred Mark Webb	158
The British Association:—	
Section B.—Chemistry.—Opening Address by Prof. William A. Bone, D.Sc., F.R.S., President of the Section	159
University and Educational Intelligence	165
Societies and Academies	166
Books Received	166
Diary of Societies	166

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