

their notice ; while the Superintendents themselves, by carefully and steadily pursuing the same plan year by year, by selecting from all their crops, and again selecting from that selection, will be able apparently, if the present results may be relied on, to increase the production and fruitfulness of the plant, and in the course of a few seasons to establish a veritable 'Pedigree Cotton,' as unlike its parent as the 'English thorough-bred,' with his long stride and fine skin, is unlike the stock whence he originally sprang. It remains for me to notice the avidity with which our surplus seed was purchased by the cultivators. Mr. Wilkinson says this seed was sufficient for the requirements of two villages, and that the crop produced was an abundant one. He further adds, 'I was informed by the Patel of one of the villages that this seed had given great satisfaction ; yields being reported of 96 lbs. to 150 lbs. cotton per acre, according to the amount of care in cultivation.' This gives an average of 123 lbs., but I will only take 100 lbs. as the *average* product, and even then I find the figures loudly speaking in favour of carefully picked and selected seed.

	Per acre.
	lbs.
Average yield of our Departmental seed ...	100
Average yield for Kandeish	82 $\frac{2}{3}$
Difference in favour of our seed	17 $\frac{1}{3}$
	or about 20 per cent.

If only this 20 per cent. could be established as the increased out-turn, by the efforts of our Department, it would bring wealth to thousands, and unspeakable benefit to the Presidency generally. It would represent an increased produce, valued at last year's rates, of Rs. 26,365,979 = £2,636,597 18s. od.; a result and a prize worth striving for, and, it would appear, possible of attainment !"

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

CAMBRIDGE.—The election to the Professorship of Animal Morphology will take place on May 31.

The Moderators and Examiners for the Mathematical Tripos have announced that logarithmic tables will be provided for each of the candidates during the examination.

The mineralogical laboratory will be open to students during July and August.

The proposed enlargement of the space available at the new museums for Practical Morphology and Histology is to be at once proceeded with.

Mr. W. H. Caldwell, B.A., Scholar of Gonville and Caius College, is approved as a Teacher of Comparative Anatomy with reference to certificates for medical study.

Dr. Anningson has been approved as a teacher of Medical Jurisprudence in the Medical School.

The proposal to continue the opening of the Botanic Garden for three hours on Sundays to Members of the Senate accompanied by their friends during the summer months, has met with warm opposition from some who consider that in this case Sunday labour is imposed on others for the selfish pleasures of a few. It has been pointed out that owing to the value of the contents of the garden it must always be watched, and it could not possibly be said that the proposed regulations will impose additional Sunday labour. The voting on this question takes place to-day (25th).

LONDON.—Prof. Ray Lankester has been re-appointed Professor of Zoology and Comparative Anatomy in University College, London.

SCIENTIFIC SERIALS

American Journal of Science, May.—Photographs of the spectrum of the nebula in Orion, by H. Draper.—Mean annual rainfall for different countries of the globe, by A. Woeikoff.—Physiological optics, by W. L. Stevens.—Flood of the Connecticut River valley, from the quaternary glacier, by J. D. Dana.—Brazilian specimens of Martite, by O. A. Derby.—Method of determining the flexure of a telescopic tube for all positions of the instrument, by J. M. Schæberle.—Dykes of micaceous diabase penetrating the bed of zinc ore at Franklin furnace, by B. K. Emerson.—Occurrence of smaltite in Colorado, by M. W. Hess.—Conditions attending the geological descent of

some freshwater gill-bearing molluscs, by C. A. White.—Measurements of the rings of Saturn in the years 1879, 1880, 1881, and 1882, by E. S. Holden.—Interference-phenomena in a new form of refractometer, by A. A. Michelson.—New minerals, monatite and monite, with a notice of pyroclastite, by C. U. Shepard.—Marine fauna of New England, by A. E. Verrill.

Journal of the Franklin Institute, May.—On the several efficiencies of the steam-engine, and on the condition of maximum economy, by R. H. Thurston.—Ninety miles in sixty minutes, by W. B. Le Van.—Intonation of chime bells, by J. W. Nystrom.—The Mears chlorination process, by W. U. Greene. Action of charcoal on a solution of gold chloride, by G. E. Koenig.

Bulletin de l'Academie Royale des Sciences de Belgique, No. 3.—On the sensations the author experiences in his eyes, by M. Plateau.—On a claim of priority, introduced in the Academy by M. E. Dewalque, regarding my note on the origin of Devonian limestones of Belgium, by M. Dupont.—On the respiratory effects of excitation of the pneumogastric, by M. Henrijean.—Various products obtained from fresh stocks of peony ; new reaction of salicylic acid, by M. Jorissen.—Reports.

Reale Istituto Lombardo di Scienze e Lettere. Rendiconti, vol. xv, fasc. vii.—The geology of the Parman Apennines, by A. Del Prato.—The double quadratic transformation of space, &c. (concluded), by F. F. Archieri.—On rational skew curves, by L. Weyr.—On the transformation of the co-ordinates in space, by F. Borletti.

Fasc. viii.—On a formula of Cauchy, concerning the development of functions in infinite products, by P. Cazzaniga.—Whether cemeteries may have an injurious influence on the public health, by L. Gabba.—Remarks on the subject, by C. Zucchi, and reply by L. Gabba

Atti della R. Accademia dei Lincei, vol. vi., fasc. 10.—On some derivatives of citraconic acid, by Drs. Ciamician and Dennstedt.—Studies on fluoxysalts and fluosalts of molybdenum, by Signors Mauro and Panebianco.—Reports.

SOCIETIES AND ACADEMIES

LONDON

Royal Society, May 4.—"On the Specific Resistance of Mercury." By Lord Rayleigh, F.R.S., Professor of Experimental Physics in the University of Cambridge, and Mrs. H. Sidgwick.

The observations detailed in the paper were made with the view of re-determining the relation between the B.A. unit and the mercury unit of Siemens, *i.e.* the resistance of a column of mercury at 0°, one metre in length, and one square millim. in section.

According to Siemens' experiments
 1 mercury unit = 0.9536 B.A. units,
 and according to Matthiessen and Hockin,
 1 mercury unit = 0.9619 B.A. units.

The value resulting from our observations agrees pretty closely with that of Siemens. We find—

1 mercury unit = 0.95418 B.A. units.

Four tubes were used to contain the mercury, of lengths varying from 87 to 194 centims. The diameter of the three first tubes was about 1 millim., and that of the fourth about 2 millims. The final numbers obtained from the several fillings of the tubes are as follows :—

Tube I.	{	0.95386	} 0.95416
		0.95412	
		0.95424	
		0.95436	
		0.95421	
Tube II.	{	0.95389	} 0.95419
		0.95414	
		0.95437	
		0.95436	
Tube III.	{	0.95424	} 0.95416
		0.95418	
		0.95399	
Tube IV.	{	0.95425	} 0.95427
		0.95440	
		0.95415	

Combining the results of the present paper with our determination of the B.A. unit in absolute measure, we get—
 1 mercury unit = 0.94130 × 10⁹ C.G.S.