

ring and the long limb projected into the body of the flask, but not directly below the inlet tube. Its lower end was just clear of the surface when the flask was half-filled with water and was closed by a fine strainer, thin cotton cloth being used as the larvæ nibbled bolting silk and so escaped. A rubber connexion between the inlet tube and a cistern was supplied with a screw clamp to regulate the flow, which fell in heavy drops.

The wave caused by the drop made contact with the outlet strainer and ejected an equal amount of water while the suction of the falling wave kept the strainer from clogging. The drip was adjusted to renew the water in the flask every four hours, but a faster renewal is possible just so long as the 'make and break' system persists. As tap-water served my purpose, the cistern was kept supplied from a gently running tap, four flasks working from a single main lead, and, provided that air locks were not allowed to form in this lead, the apparatus ran smoothly for an indefinite length of time.

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The University,  
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Oct. 1.

<sup>1</sup> NATURE, 136, 345; 1935.

### X-Ray Examination of the Effect of Removing Non-Cellulosic Constituents from Vegetable Fibres

IN a recent letter by W. T. Astbury, R. D. Preston and A. G. Norman in NATURE of September 7, p. 391, it is stated that "Miles Thomas and Hewitt report a diminished *intensity* in photographs of purified fibres; but we have not observed such an effect".

The results obtained for sisal, in this laboratory, confirm their statement that *no* diminished intensity is observable in photographs of *purified* fibres. On the contrary, the process of purification leads to an improved definition.

Any ambiguity which may have existed on this point is much to be regretted, but it may be easily explained and removed.

Fibres which have been chlorinated by the use of moist chlorine gas, and the so-formed chloro-compounds not removed, were designated "chlorinated fibres". It is these fibres which give a photograph of diminished intensity. There is full agreement as to there being no diminished intensity in photographs of purified fibres.

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### Points from Foregoing Letters

CERTAIN strains of mosquitoes (*Culex pipiens*) originally found on the Continent can lay fertile eggs without a previous meal of blood and have been termed 'autogenous'. J. F. Marshall and J. Staley bring evidence that certain man-biting mosquitoes in Great Britain are females of such autogenous strains: they describe the morphological differences between autogenous mosquitoes from various countries and the original non-autogenous variety and suggest that the specific name *C. domesticus* be revived for the autogenous strain.

The original gorilla skulls upon which Richard Owen based his first description of that animal in 1848 have been discovered in the Bristol Museum and Art Gallery. H. Tetley gives their origin and history.

The formation of brown ring deposits on glass by bombardment with positive rays (protons) is reported by Prof. B. Dasannacharya, V. T. Chiplonkar and L. G. Sapre. Similar deposits, but not ring-shaped, have been observed before and ascribed to the decomposition of hydrocarbon impurities.

Dr. R. K. Asundi, M. Jan-Khan and Prof. R. Samuel have increased the small number of completely analysed spectra of polyatomic molecules by an analysis of the  $\text{SeO}_2$  bands. They have also analysed the  $\text{SeO}$  bands, and find a close correspondence between the constants of these two molecules, which indicates strong localisation of the bonds.

The direct measurement of the *L*-series of the X-ray spectrum of the rare gas argon, by means of their new ionic tube, is reported by M. Bačkovský and Prof. V. Dolejšek. The observed values agree well with those calculated by interpolation of the data from Siegbahn and Magnusson.

E. G. Cowley and Prof. J. R. Partington have determined the dielectric constants of several esters of inorganic acids (ethyl and *iso*-amyl borates and triphenyl phosphate) and have calculated their molecular dipole moments.

Experiments by Dr. C. N. Acharya show that, when nitrogenous substances are oxidised by a mixture of chromic and sulphuric acids, the amount of ammonia formed bears a definite proportion to the total nitrogen present, depending on the structure of the compound. Of the residual nitrogen, a part is converted into nitrate, and the rest lost in gaseous form. Dr. Acharya gives the values of 'oxidation constants' for different types of nitrogenous compounds.

If the term 'phoneme' is to be applied to one only of a group of similar sounds then, asks W. F. Twaddell of Prof. Scripture, what name is to be given to the group itself? Further, is there sufficient evidence from sound-track profiles to justify grouping together the *p*'s or *t*'s in such words as '*pit*' and '*tip*'? Prof. Scripture answers that it is a matter of convenience whether the term phoneme is used for a group of similar sounds or for a single member of the group. The essential part, he insists, is that the phoneme shall be defined in quantitative terms based upon film-tracks or similar records, and not upon references to undefinable and unrecorded sounds such as '*t*' in '*tip*'.

In the fermentation of certain sugars to lactic acid, methyl glyoxal is considered to be an intermediary product, it being changed to lactic acid by an enzyme in presence of the sulphur compound, glutathione. From the rate at which lactic acid is produced and from other evidence, J. Giršavičius and P. A. Heyfetz conclude that the glutathione first combines by means of its  $-\text{SH}$  group with methyl glyoxal, and then, as the enzyme-catalysed reaction develops, enters into a further transformation, again involving its  $-\text{SH}$  group.

Prof. Neilson Jones directs attention to recent work by Reed and Dufrenoy showing that spraying with zinc sulphate prevents 'mottle leaf' in *Citrus*, and points out that zinc is apparently an essential element in the production of chlorophyll.