

Products formed during the Preparation of Ketene

TRACES of naphthalene have been detected in the acetone condensate obtained during the preparation of ketene by passing acetone vapour over electrolytic copper heated in a silica tube.

The naphthalene was isolated from the acetone condensate by distilling off the acetone and a colourless pungent liquid boiling up to 120° C. The remaining brown tar was steam distilled giving a pale yellow solid which sublimed to colourless crystals, m.p. 79–80° C. These crystals were identified as naphthalene by picrate (m.p. 140–143°; 147°) chlorodinitrobenzene (m.p. 75–76°) and trinitro toluene (m.p. 92–95°) derivatives.

As evidence against the possibility that the naphthalene may have been due to impurities, naphthalene was again detected in similar quantity when extra care had been taken to exclude any such impurities.

It would be interesting to know whether any other investigator has detected such a product.

R. W. HALE.

Fort Dunlop,
Birmingham.
Oct. 22.

Why Do Stranded Whales Die?

WHEN a school of whales was stranded on an Australian coast, much to the discomfiture of local health authorities, I put to various colleagues in the University of Melbourne the simple query: Why do stranded whales die? I received the following answers, and it was amusing to note that in most instances the explanation was coloured by the special study of the colleague interrogated.

(1) The blood now being acted on by gravity collects in the dependent parts and produces anæmia of the brain.

(2) The weight of the body impedes breathing.

(3) Vital organs are crushed by the great weight.

(4) The unaccustomed warmth, especially if there is direct insolation, induces heat stroke.

(5) The unaccustomed temperature interval between night and day gives rise to internal chills and probably pneumonia.

(6) The whales do not die because they are stranded; they are stranded because they are dying.

Perhaps the list can be extended by readers of NATURE.

W. A. OSBORNE.

University, Melbourne.
Nov. 1.

Points from Foregoing Letters

A COMPLETE skull of *Sinanthropus pekinensis* (female) has been reconstructed by Prof. Franz Weidenreich by means of a recently discovered upper jaw with six teeth together with other fragments of the facial skeleton previously found, belonging to the same species, so that all the essential parts are based on actual findings. Photographs are submitted showing a comparison of the reconstructed skull with that of a female gorilla and an adult male Chinese.

X-ray photographs obtained by Dr. A. Müller from nickel and gold disks under high-dispersion conditions (using the β -line of iron and the α_2 -line of nickel, respectively, as incident radiations) show that the X-rays are scattered over a comparatively wide range. The author concludes that precision data on lattice dimensions have to be regarded as statistical averages of figures varying within, say, 1/1,000. The lattice 'constant' of an individual crystal is less reproducible than that of the average.

An X-ray study of iron-nickel-aluminium alloys has led Dr. A. J. Bradley and A. Taylor to put forward a new explanation of the properties which enable them to be used as permanent magnets. On slow cooling, these materials break up into two body-centred cubic lattices of widely varying compositions, but in the permanent magnetic state the two lattices remain coherent.

Prof. R. Ruggles Gates submits photomicrographs showing that anaphase chromosomes of *Trillium sessile* are double. The demonstration of this fact has important consequences for hypotheses of chromosome structure and behaviour.

Cases of blindness in fish (rainbow trout) are reported by Dr. W. Rushton, due to the presence in the eye lens of the larvæ of the trematode, *Diplostomum volvens*. The life-history of this parasite indicates that part of its existence is spent in the gut of water birds.

A plankton collector suitable for towing at a relatively high speed is described by E. Lowe Pierce. It consists of a metal cylinder with cones at each end and an internal conical silk net, the whole being attached to a diving fin.

According to new experiments by Prof. J. O. Wilhelm, H. E. Jones and Prof. Grayson Smith, reported by Prof. E. F. Burton, the refractive index of liquid helium I at 4.22° K. is 1.0206 and at 2.26° K. it is 1.0269. The latter value is identical with that for liquid helium II at a temperature of 2.18° K. when it has the same density. There is no abrupt change in refractive index at the transition point.

The natural activator of papain has been separated from the enzyme system of the latex of the papaw by Prof. Max Frankel and R. Maimin. Its chemical properties and influence on gelatin and peptone cleavage respectively make it probable that this activator is glutathione.

The unequal development of bacterial cultures grown on 'potato slopes' from different varieties of potatoes is described by D. Ward Cutler and Mabel Dunkley. Experiments with *Flavobacterium* indicate that the varieties 'Majestic', 'Epicure', 'Red King' and 'King Edward' give the best results.

"Does an arrow rotate?" inquires L. J. D. Richardson, who points out that the Latin word *torques* may have implied the imparting of an axial spin.

Miss K. Warrington directs attention to the growing list of plants for which boron is an essential constituent. The latest addition to the list is the carrot, though its relatively small boron content (25 mgm. per kgm. of dry weight) indicates that disease due to boron deficiency is likely to be rare in this plant.