

The coring effect shown in the photomicrograph is due to the small amounts of impurities present in the particular lead illustrated.

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Calcium Iodate as a Temporary Preservative

For the past two years we have been using a 0.1 per cent solution of calcium iodate as a temporary preserving agent for class material. The iodate is dissolved in distilled water and warmed to ensure thorough solution.

We find it particularly valuable for material to be preserved in a fresh and pliable condition from one practical class to the next. With the exception of Arthropods, it will keep any comparatively small object fresh and odourless for two to three weeks, and we have kept specimens of *Heterosepiola*, *Rana* and *Bufo* for six months. At the end of that period, the flesh of all specimens was soft and pliable, though slightly brown, and in *Rana* and *Bufo* the blood was still red in the arteries. Results with dogfish have not proved successful for a period longer than ten days.

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Points from Foregoing Letters

By subjecting to harmonic analysis the hourly records of the intensity of cosmic rays observed over a period of two years by means of 'counters' inclined at various angles to the horizon, Drs. J. Barnóthy and M. Forró find that there is a straight line relation between the maximum of the first harmonic wave (sidereal time) and the total thickness of the absorbing material through which the cosmic rays have passed. They consider this effect to be related to the galactic rotation.

From considerations of energy interchanges between an atomic nucleus and the universal 'background', Dr. F. L. Arnot concludes that the continuous beta-ray spectrum (the emission of electrons of varying energy by radioactive substances) can be explained without assuming the existence of undetectable neutrinos.

A graph showing the dependence of the threshold value of supra-conductivity (field strength at which resistance appears) in thin lead wire at 4.2° K. is given by B. Pontius. A change in threshold value was first noticed at 14.2 μ diam., and the effect reached a value of 4 per cent in excess of normal at 5.6 μ diam., indicating a depth of penetration of 10⁻⁸-10⁻⁶ cm. for the magnetic field.

Prof. J. W. McBain and C. Alvarez-Tostado give a brief description of a simple 'rotor' for ultracentrifuging solutions of pure substances such as sugar in order to determine their molecular weight. It consists essentially of a pile of very thin (0.003 inch) silver washers, alternately wide and narrow, pressed together so that the liquid between the wide washers is imprisoned in annular layers. This enables the central core of liquid to be withdrawn and analysed after centrifugation.

An apparatus is described by D. B. Langmuir which draws the trajectories of charged particles in potential fields continuously and entirely automatically. Methods of accounting for initial velocity, transverse magnetic fields, and relativistic change of mass are described, and data illustrating the precision are presented.

The influence of vitamin D on phosphorus metabolism in normal and rachitic rats has been the object of a series of experiments made by Dr. M. J. L. Dols

and Prof. B. C. P. Jansen in collaboration with Prof. G. J. Sizoo and J. de Vries. A radioactive phosphorus isotope was used as an indicator. In all the experiments a very rapid entrance of the labelled phosphorus into the bones was perceptible. One hour after the injection of the active phosphorus into the tail vein, a considerable amount was re-excreted into the small intestine.

Further experiments on the oestrogenic action of *p*-hydroxypropenyl benzene (anol) indicate, according to Prof. E. C. Dodds and W. Lawson, that while the pure compound has in itself a certain activity when given in large doses, the very high activity shown by certain specimens in small amounts is due to an unknown substance, probably a polymer of anol.

A. A. Wolsky finds that by means of partial illumination in a carbon monoxide atmosphere, local depressions in the development of *Drosophila* pupae can be induced in the regions which are not illuminated. It is believed that the respiration of the pupae is depressed by carbon monoxide, but illumination diminishes the effect, possibly because the chemical compound, formed between carbon monoxide and the iron-containing respiratory enzyme, dissociates under the influence of light.

By crossing a number of varieties of dwarf rice plants from India, Japan, Australia and the United States of America, B. S. Kadam has been able to determine that five genes are responsible in causing short stature.

E. J. Winter points out that although growth in a colony of a duckweed, *Lemna minor*, is exponential, yet when the individual frond is considered this is not the case. The rate of production of daughter fronds from a parent frond is shown to be a hyperbolic function.

A. Sokolow submits equations to overcome the difficulties raised by Fock in connexion with the new neutrino theory of light.

Brinley Jones submits a photomicrograph to support his view that the lines observed in etched sections cut through lap welds in sheet lead are due to a surface skin of oxide on each layer of metal used in building up the weld.