The Mount Everest Expedition, 1936

MANY well-wishers of British exploration were rather more than surprised to see among the names of those announced in NATURE of December 21, p. 984, to take part in the fresh attempt to conquer Mount Everest none who is qualified to continue the valuable scientific investigations commenced by the earlier expeditions to this region. It is well known that the scientific researches, carried out often concurrently with the actual climbing operations by the four earlier expeditions, greatly increased our knowledge of the natural history, etc. of this ordinarily inaccessible and unique region. There is much yet to investigate as regards such features as the glaciers themselves, as well as the structure of this most important section of the main Himalayan chain, and it would be a pity if the opportunity were missed for continuing the work.

Moreover, it should surely be apparent to the sponsors of this expedition, and to its leader, that it has been a tradition on all primary British enterprises of this character to recognise the needs of scientific inquiry. Should the new attempt on the summit of Everest again fail in its object, then this expedition is in danger of returning empty-handed and with nothing of scientific value to cover its nakedness, while in the event of anticipated success the region is likely to be closed politically against all further investigation.

CONWAY OF ALLINGTON.

Dimorphism of Ergometrine

ERGOMETRINE as described by the late H. W. Dudley[1] is a white crystalline substance, which melts at 162°–163° (decomp.). During the process of preparing ergometrine, we have isolated in addition to this form a modification which crystallises from acetone in long needles, m.p. 212° (decomp.). We also find that the low melting point form tends to pass into the high melting point form on keeping, and that the transformation of the former into the latter can be effected rapidly by crystallisation in the presence of a crystal of the form m.p. 212°. The more stable form is also the less soluble. Both modifications have the same specific rotation, $[\alpha]_{5461} + 62 \cdot 6°: [\alpha]_D^{20°} + 42 \cdot 2°$ (c in dehydrated alcohol 1·7) for the solvent free substance.

R. L. GRANT.
S. SMITH.

Wellcome Chemical Works,
    Dartford.   Dec. 30.

[1] *Proc. Roy. Soc.*, B, **118**, 478 (1935).

Points from Foregoing Letters

THE three approved methods of estimating vitamin A content give different results, according to A. L. Bacharach, Prof. J. C. Drummond and Dr. R. A. Morton. The values obtained by the spectroscopic method are at variance with those obtained by biological assay; the subsidiary standard (the U.S. Pharmacopœia reference oil) has deteriorated, as shown by both fall in absorption coefficient and by biological tests; even the direct biological comparison with the international standard preparation is apparently liable to variations of 20–100 per cent.

Dr. R. de L. Kronig states that the theory developed by Jordan and himself in connexion with the postulated production of neutrinos is the only one that explains the absence of γ-radiation in certain cases of β-ray (electron) emission by radioactive substances.

Experiments on the radioactivation of gold by neutrons slowed down by paraffin wax, using cadmium as filter, described by Dr. O. R. Frisch, Prof. G. Hevesy and H. A. C. McKay, indicate that there exists a group of neutrons very strongly absorbed by gold but transmitted through cadmium; this group has apparently a narrow velocity range and forms only a small fraction of the total number of neutrons transmitted by cadmium.

Dr. F. L. Arnot and J. C. Milligan, by means of their mass-spectrograph, have been able to detect negatively charged atoms of mercury (Hg^-), but not negatively charged molecules (Hg_2^-). They find that the atomic ions have energies higher than can be accounted for by the total potential across the tube or by the dissociation of excited molecules.

To explain the variation in the spectrum of the light emitted by Nova Herculis at different times, Dr. W. M. Cohn assumes that the radiation is made up of two parts, one due to heat radiation ('black body' type) and the other due to electron emission. He considers that the black body radiation (which determines the temperature of a body) should, in the case of stars, be deduced from the ultra-violet portion of the spectrum.

A case is reported by Dr. G. Eloff of 50 per cent crossing-over in the male of a stock of the fruit fly *D. melanogaster*. This high frequency of crossing-over is probably due to a chromosomal mutation.

Photomicrographs of two different kinds of *Streptococcus apis*, responsible for European foulbrood of bees, are submitted by H. L. A. Tarr. The two strains differ only in that one causes the rapid liquefaction of gelatin and coagulates and peptonises the casein of milk, while the other does not.

The presence in an Indian collection of fish, stated to have been caught off the coast of Burma in October 1933, of five species hitherto believed to be restricted to Atlantic waters, is reported by Dr. S. L. Hora and D. D. Mukerji. A later collection, in January 1935, in the same region but in different surroundings (coral-reef areas), yielded an entirely different fish fauna.

The rate at which the light-sensitive compound silver oxalate (obtained from silver nitrate and sodium oxalate) decomposes with increased temperature is found by Dr. J. Y. Macdonald to vary with concentration of the original solutions and with the relative amount of the reacting substances. The author considers the decomposition a complex mechanism, and disagrees with Benton and Cunningham, who have suggested for it a simple exponential equation.

Commenting upon a recent paper by Dr. A. B. Wood, G. S. Field directs attention to his investigation on the relation between the frequency of vibration excited in disks and the ratio of their thickness to diameter. He found that, as t/d increases, Kirchhoff and Poisson's formula no longer holds and has to be replaced by a more complex exponential formula.