

On determining the D_2O content of combustion water from liver protein, 0.1 per cent D_2O was found, which means that at least 10 per cent of the liver protein present after the experiment is newly formed from the food absorbed in the course of the three days of experimental feeding. In the muscle the concentration of deuterium was less, indicating that about 2.5 per cent of the protein was newly formed.

The water distilled off from the organs showed a D_2O concentration of 30 mgm. per cent, which shows that most of the ingested protein has been broken down in the organism. This experiment supports the well-known view that the liver functions as a protein depot³, but experiments have to be done under varied conditions before definitive conclusions can be drawn.

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July 4.

¹ Günther, G., Diss. Leipzig (1937).

² Krogh, A., and Ussing, H. H., *C. R. Lab. Carlsberg*, Ser. chim., **22**, 282-287 (1938).

³ Addis, T., Poo, L. J., and Lew, W., *J. Biol. Chem.*, **115**, 11, 117 (1936).

Chemical Studies on the Adreno-Genital Syndrome

IN a recent issue of the *Journal of Biological Chemistry* we published a paper¹ entitled "Chemical Studies on the Adreno-Genital Syndrome. (1) The isolation of 3(α)-hydroxyetiocholane-17-one, 3(β)-hydroxyetioallocholane-17-one (isoandrosterone), and a new triol from the urine of a woman with an adrenal tumor".

We wish to take this early opportunity of pointing out that the word 'hyperplasia' should be substituted for the word 'tumor' in this title. The mistake arose as a result of a slight misunderstanding in our correspondence with Mr. L. R. Broster, of the Charing Cross Hospital, who very kindly supplied us with the urine upon which these researches were carried out. We wish to add that this unfortunate misunderstanding arose entirely from an oversight on our part, and was in no way the fault of Mr. Broster.

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¹ *J. Biol. Chem.*, **124**, 237 (1938).

Points from Foregoing Letters

A TABLE giving the capture cross-section for 220 Kev. electrons, by various elements, is submitted by Dr. H. von Halban, jun., and Dr. L. Kowarski. It shows that the nuclei with big capture cross-sections have mostly odd proton numbers and even neutron numbers.

Seven out of ten interval factors, calculated by Dr. S. Tolansky from the hyperfine structure of the iodine spark spectrum, show perturbations which indicate the existence of a nuclear quadrupole moment. The interaction energy for each perturbed level necessitates a cubic law to account for the observed values.

Prof. G. Wataghin makes an attempt to solve the convergence difficulties of the quantum theory and to explain the explosion-showers, starting from the assumption that our ability to measure high relative impulses is limited in a new way. A new algebra of states and observables which corresponds to a supplementary indetermination (due to β -ray forces, neutrinos, showers) by the high-energy collisions is discussed.

Prof. R. T. Cox and Prof. F. E. Myers consider that the quantum indeterminacy would prevent the observation of the difference in potential energy between the two free electrons in magnetized iron, which have magnetic axes respectively parallel and anti-parallel to the direction of magnetization.

Prof. J. Kaplan gives laboratory evidence supporting the reality of the observation by Gauzit of the second positive bands of nitrogen, 2963, 2977, in the light of the night sky. Observation of three low wave-lengths is presented as additional evidence for a low origin of the light of the night sky.

X-ray study of the structure of iron-palladium systems shows, according to Dr. R. Hultgren and C. A. Zapffe, that the change from the gamma to the alpha form on cooling takes place in at least two steps: first the atoms rearrange themselves into a body-centred form, then palladium is precipitated out in a face-centred palladium-rich phase.

G. Ehrensvärd and L. G. Sillén discuss further their hypothesis that potential differences at oil-water interfaces are mostly determined by a state of adsorption equilibrium and negligible diffusion; they point out, incidentally, that a change in potential difference may be observed between freshly distilled and old organic liquids, which may be due to molecular re-association.

From the fact that the electrical response in dark-adapted frog's eyes may be greatly reduced without a parallel diminution of the visual purple pigment, Prof. R. Granit, T. Holmberg and M. Zewi conclude that the retinal rods contain a store of visual purple, only the surface part of which appears to be active at a given time.

Vitamin B (thiamin) and riboflavin are found by P. M. West and Prof. P. W. Wilson to be two components synthesized by growing cultures of *Rhizobium trifolii*, and necessary to it, if it is to be continuously transferred in synthetic media.

Prof. G. K. K. Link and Virginia Eggers add one more to the long list of secondary effects of indole-3-acetic acid on plants in reporting that, in concentrations of 1.7×10^{-2} to 2.7×10^{-6} molar, this substance inhibits, retards or diminishes initiation of adventitious buds in decapitated hypocotyls of flax. These buds are initiated by division of a single epidermal cell without immediately precedent cell enlargement. It is concluded that the native auxin of flax and also indole-3-acetic acid are effective through influencing a cell-division substance or substance complex, which is designated meristin.

An easy conversion of *trans*-dehydro-androsterone into pregnane derivatives is described by Prof. L. Ruzicka and H. F. Meldahl.

By feeding casein hydrolysate, containing heavy hydrogen atoms, for three days to a rat, and determining the proportion of heavy hydrogen atoms in various organs at the end of that period, H. H. Ussing finds indications that about 2.5 per cent of the protein of the muscle and at least ten per cent of the liver protein was newly formed.