*Chairman,* George B. Pegram; *Vice-chairman,* W. S. Gorton; *Secretary-Treasurer,* Henry A. Barton; *Members of the Executive Committee,* I. I. Rabi and G. Breit. Membership in the section is restricted to members of the American Physical Society, but its meetings will be open to all interested persons.

THE scientific library of the late Professor U. S. Grant, containing fifteen hundred bound and four thousand unbound volumes, was formally presented by Mrs. Grant on February 14 to the Department of Geology and Geography of Northwestern University. President Scott accepted the library on behalf of the university. Dr. Grant was head of the department for the thirty-three years preceding his death in September, 1932.

# DISCUSSION

## THE BIOCHEMISTRY OF ANESTHESIA

DUE to travel and other external circumstances, the publications of W. D. Bancroft, *et al.,* printed in the *Journal of Physical Chemistry* (35: 215, 1931, and 36: 273, 1932) were unfortunately traced only during the course of the autumn of this year by means of the *Chemisches Zentralblatt.* The reprints of those papers sent to me upon request reached me at the beginning of October, 1933, and so I may be permitted to refer to them briefly after an undue delay.

(1) The assumption referred to on page 216—that "it is known that during narcosis the permeability is first lowered and then increased"—has been abandoned by Hoefler and Weber in 1926,[1] and Nord and Franke expressed their position concerning this point as well as concerning the alleged "stimulation" or "activation" by means of ethylene in their extensive experiments with zymase solutions and yeast cells[2] as follows: "The hitherto unexplained effect of minute quantities of ethylene and related substances on cell systems appears to be due to an *initial* increased cell permeability, allowing an intensified interaction between reactants and enzymes, followed by the formation of a (reversible) adsorption film, which simultaneously acts as a protector against damaging transformation products."

(2) Nitrous oxide and acetylene does not belong to the same group of narcotizing agents, since, according to another series of investigations,[3] the former decreases the surface tension, whereas the latter (as well as ethylene) increases the surface tension of solutions of biocolloids. The "Erstickungstheorie" of Herm. Wieland can not be, therefore, valid, and on account of the opposed working mechanism of the two gases the adsorption theory can also not be regarded as satisfactory. Besides this, we could show by nephelometric measurements that solutions of biocolloids are not coagulated, either by nitrous oxide or by unsaturated hydrocarbons, and so we could not confirm any connection between narcosis and coagulation, all the less, since the activity of zymase solutions could be practically inhibited by the latter[4] without a noticeable coagulation of the carriers.

Besides many other statements in the papers of Bancroft *et al.,* which stimulate the reader to constant mental discussion, I wanted to refer especially to the above proven contradictions.[5]

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BERLIN, NOVEMBER 25, 1933

[1] *Jahrbuch f. wiss. Botanik,* 65: 643–737.

[2] *Protoplasma,* 4: 595, 1928; *Jour. of Biolog. Chemistry,* 79: 50, 1928; *Z. f. angewandte Chemie,* 42: 1025, 1929. "Mechanism of Enzyme Action and Associated Cell Phenomena," Baltimore, Md., 1929.

[3] *Trans. Faraday Society,* 26: 760; *Z. f. Physikal. Ch.* (A) 150: 1, 1930, and 166: 1, 1933, and the monograph, "Zum Mechanismus der Enzymwirkung unter besonderer Berücksichtigung der Kryolyse," Stuttgart, 1933.

[4] *Z. f. Physiolog. Ch.,* 183: 217, 1929.

[5] Compare for further literature: "Ergebnisse der Enzymforschung," Vols. 1 and 2, Leipzig, 1932, 1933.

## NAMING HYDROGEN ISOTOPES

THE wide-spread interest in heavy hydrogen and its compounds has been reflected in the discussion of suitable names and symbols for both $H^1$ and $H^2$. Of the letters in SCIENCE one of the most interesting is that of Professor Urey and others in the number dated December 29.

The awkwardness of the names protium and deuterium, however suitable they may be scientifically, appears to be commonly recognized. Various alternatives have been offered, but I have failed to see that any suggestion has been made of the following rather simple method of meeting the requirements for both names and symbols for these isotopes.

Our minds, as well as our literature, are so filled with the specific significance of the name hydrogen that to discard it would be certain to entail endless confusion. Both simplicity and understanding would be served by calling protium "hydrogen-p" and deuterium, "hydrogen-d," and the connection with the familiar hydrogen thus be maintained. Similarly, the symbols Hp and Hd would be specific, exact and almost self-explanatory.

The formulas $H^1H^2$, $NH^1H^2_2$, $NH^1_2H^2$ and $C_6H^1_2H^2_4$, cited by Professor Urey and others, would then be written HpHd, $NHpHd_2$, $NHp_2Hd$ and $C_6Hp_2Hd_4$, thus reducing the symbols to a form