

5. Triacetin and monoacetin form the best substrates for the action of the lipase. Lecithin and cephalin are also acted upon by it.

6. The amount of activity of the lipase, as has been shown for other enzymes, is increased directly with the amount of enzyme, the amount of substrate, and the time during which the enzyme is allowed to act.

7. The amount of activity of the lipase is increased by the presence of sodium glycocholate, saponin, or a mixture of the mono- and dibasic phosphates of sodium.

8. The lipase acts best in a slightly acid medium, the erepsin in an alkaline medium.

9. In general, the gray matter is more active than the white. Higher activity was obtained with extracts of the cerebrum, cerebellum, or mid-brain than with extracts of the medulla, or corpus callosum.

10. Human, beef, sheep, and dog brains all contain similar amounts of lipase.

11. Negative results were obtained in tests for peroxidase, oxidase, reductase, guanase, urease, and rennin.

URBANA, ILL.

NOTE.

The Origin of Petroleum.—It has been some time since I suspended publication on various lines of study on petroleum and its constituents, and it therefore seems necessary, to retain this field, that a brief mention be made of the present condition of my work, that others may not with perfect propriety take up some parts of it which I now have in progress. I am now using the information gained during the last thirty years in aid of further examination of the constituents of petroleum with especial reference to their original formation. It appears that twenty or more crude oils including those of Russia, South America, Texas, Canada and Louisiana contain the identical series of nitrogen compounds that were formerly described as present in California petroleum. These compounds are not pyridine as was formerly made plain in the paper on the California oils. This subject I have now in hand, together with a method for the determination of the small proportions of nitrogen contained in crude oils.

I am also carrying on a study of the action of sulfur on the constituents of petroleum, the series C_nH_{2n+2} , C_nH_{2n} , C_nH_{2n-2} , and C_nH_{2n-4} . Hydrogen is readily removed at temperatures near 150° with the formation of heavier oils, and at the same time with the formation of sulfur derivatives of the hydrocarbons. It is proposed to include in these changes the hydrocarbons all the way to the asphalts. I also have in hand series of hydrocarbons obtained by the distillation of coal *in vacuo*, and of gilsonite

in vacuo; the latter yields about 50% of its weight in distillates. These have been fractioned *in vacuo* and await further examination.

CHARLES F. MABERY.

CASE SCHOOL OF APPLIED SCIENCE,
CLEVELAND, O.,
January 28, 1915.

NEW BOOKS.

Essays and Addresses. By the late JAMES CAMPBELL BROWN, D.Sc. (Lond.), LL.D. (Abdn.), Professor of Chemistry in the University of Liverpool. With a portrait and twenty-two illustrations. J. & A. Churchill: London, 1914. vii + 208 pp. Price, \$2.00 net.

This book has been published in response to the request of many of the former pupils and friends of Dr. Campbell Brown for copies of addresses, either never published, or at present out of print. Five of the twelve numbers were delivered before the student chemical society of the University College, Liverpool, and two others before a joint meeting of the societies of the same college, while three were delivered before the Liverpool Section of the Society of Chemical Industry, two of them being addresses as Chairman of the Section.

Perhaps the most interesting papers are the translation of an autobiographical sketch of Liebig, originally published in the *Deutsche Rundschau*, and a reminiscent sketch of Hofmann. Speaking of the long hours kept by students, assistants, and Hofmann himself, in the little group at the Royal College of Chemistry, he adds: "That is the kind of work that tells. An eight-hour day may be all very well for working men who have no ambition and who are content with daily bread (and beer); but a gentleman has to work much harder." Other essays on technical education and chemistry as a profession, discuss perennial problems in an interesting manner, while the papers on Ethics of Chemical Manufacture, and a French View of German Industries, are far from being out of date. The only strictly scientific paper is one on Aquiculture: a Study of Deposits in Pipes.

The book as a whole is pleasant reading, and will be especially welcome to the old students and many friends of the genial Liverpool professor.

JAS. LEWIS HOWE.

Zur Lehre von den Zuständen der Materie. By P. P. VON WEIMARN. Vol. I, 183 pp. Vol. II, 100 photographic illustrations. Theodor Steinkopff, Dresden & Leipzig. Price M. 7 unbound, M. 9 bound.

This is a reproduction of the author's articles in the *Kolloid Zeitschrift*, 1908-9, without much of the theoretical matter then published.

Proceeding on the idea that every insoluble substance is capable of assuming the colloidal state by sufficient subdivision, he devotes much of the experimental work to the forms of barium sulfate. This and