its sulphur, 20 per cent. of its amino nitrogen and changed considerably in its specific rotatory power.

Biochemistry of plant diseases. III Effect of the brown rot fungus on plums: J. J. Willaman and M. Sandstrom. Five varieties of plums were subjected by rotting by *Sclerotinia cinerea*. The changes in composition of the tissue were characterized by (1) an increase in the P_H values, (2) a decrease in the titre, (3) a decrease in the malic acid, (4) formation of oxalic acid, (5) marked decrease in tannin. The ratio of protein to non-protein nitrogen increases during rotting and during the ripening of the plums.

The apparently specific effect of ammonia in the oxidation of butyric acid with hydrogen peroxide: Edgar J. Witzemann. Ammonium butyrate in dilute aqueous solution in the presence or absence of excess ammonium hydroxide is readily oxidized by hydrogen peroxide. Sodium or potassium butyrate in the presence of absence of excess of the alkali hydroxide is scarcely oxidized at all by hydrogen peroxide. These facts are of especial interest because they offer a new and rational interpretation of the interrelation of increased urinary ammonia and increased fat and protein oxidation in acidosis. The fact that large amounts of acetone are obtained in this oxidation of ammonium butyrate, as was shown also by Dakin in 1908, supports the application of the results to the interpretation of acidosis metabolism.

Antibody studies—Part 3. A preliminary report on the chemical nature of bacterial antibodies? F. M. Huntoon, Peter Masucci and E. Hannum. Presented by Peter Masucci. Bacterial suspensions were sensitized with specific serum. The protective antibodies were removed from the sensitized antigen by various solvents. The resultant solution was filtered through a candle and its protective antibody content determined by the U. S. Hygienic Laboratory method for testing the potency of anti-pneumococcus serum. Direct and indirect chemical methods as well as biological methods used show that protective antibodies are colloidal in nature, are not soluble in ether, and do not belong to the globulin group of serum proteins. They are not destroyed by the action of trypsin over long periods of time, and are not affected by certain dilute acids and alkalies or 30 per cent. sodium chloride solution. Heat above 60° C. progressively destroys or alters their nature. We may state that antibodies do not belong to that group of proteins usually considered under the head of serum proteins.

The non-catalase decomposition of hydrogen peroxide by aromatic hydrocarbons and their derivatives: Sergius Morgulis and Victor E. Levine. The experiments arose from the accidental observation that an enzyme preparation preserved with toluene had acquired a remarkably increased capacity for decomposing hydrogen peroxide. Euler and Blix have recently published the fact that yeast catalase is activated by toluene. The idea of an activation of the enzyme by toluol seems entirely improbable, for we have found that toluene alone even in minute quantities decomposes hydrogen peroxide. The action of toluene is also characteristic of other hydrocarbons of the benzene group. These compounds form a series, according to the number of methyl radicles attached to the ring, with a gradually decreasing power to decompose hydrogen peroxide, thus Benzene > Toluene > Xyluene > Mesitylene. The reaction is not general for aromatic hydrocarbons but is specific for those of the benzene series. Hydrocarbons with more than one benzene ring, like diphenyl, diphenylmethane, benzidine, naphthalene, anthracene and heterocyclic compounds do not react. The introduction into the ring of a COOH group, $NHNH_2$ group or one or more phenol groups renders the hydrocarbon incapable of decomposing hydrogen peroxide. The substitution of a nitro, amino or aldehyde group, or of a halogen atom for hydrogen does not prevent the breaking up of hydrogen peroxide, although the catalytic power of such substituted compound is much less than that of the corresponding hydrocarbon. The decomposition of hydrogen peroxide by aromatic hydrocarbons and their derivatives is not caused by changes in surface tension.

Charles L. Parsons,
Secretary

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