while the hatch for those in Pen II was only 40 per cent. The leg weakness and retention of eggs in the oviduct began to be manifested in Pen II about the middle of the sixteen-week period. During the last half of this period six of these hens died. These hens all contained ruptured egg yolk.

On May 12 the light treatment was discontinued on Pen I, and June 1 light treatment was begun on Pen II. When this change was made, the previous record was just reversed. No more hens died in Pen II, and they increased in egg production, while Pen I decreased in egg production. The percentage produced in Lot I fell from 48 per cent. during the sixteen-week light treatment to 23 per cent. during the ten-week period when they received no light treatment. The percentage produced in Pen II increased from 11 per cent. during the sixteen-week period they received no light treatment to 34 per cent. during the ten weeks they received the light. During the period that Pen I received the light treatment, the shells on the eggs weighed 44 per cent. more than those in Pen II. When the light was changed to Pen II the weight of the shells from this pen was 12 per cent. greater than those from Pen I.

These data indicate that the ultra-violet light caused the difference noted between these two pens.

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THE AMERICAN CHEMICAL SOCIETY

DIVISION OF CHEMISTRY OF MEDICINAL PRODUCTS

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The effect of some guanidine derivatives and other related substances upon the blood sugar of normal rabbits: HARRY E. DUBIN and H. B. CORBITT. In line with Collip's suggestion that insulin might be a guanidine compound, a number of derivatives were tested out for their blood sugar-reducing effect. While a reduction in blood sugar was obtained, it was necessary to use a comparatively large dose. As a result, the animals died; besides, the decrease in blood sugar was not at all comparable to that produced by a unit of insulin. It seems unlikely that insulin is a guanidine compound.

Relationship between chemical structure and physiological action. The effect of 1-suprarenin (synthetic epinephrin) and various derivatives upon the blood sugar of normal rabbits: HARRY E. DUBIN, H. B. CORBITT and LOUIS FREEDMAN. Rabbits were prepared for use in a manner similar to that employed in testing insulin. Definite amounts of 1-suprarenin and various derivatives were injected and the blood sugar noted at stated intervals. The blood sugar-increasing effect varied with the chemical configuration of the substance injected. Frequently, the rise in blood sugar was followed by a decrease below the normal. This is undoubtedly only a compensation for the previous rise and has no further significance.

The establishment of chemotherapeutics: H. M. SPENCER. Chemotherapy has been defined and its limitations enunciated. It has been demonstrated that chemotherapy is a part of physical chemistry rather than of organic chemistry. A new medicament, Mercodel, has been described, the therapeutic vigor of which exemplifies this fact. Chemotherapy should concern itself at least equally with the energy in the body as with the material changes. The limitations of animal experimentation must be recognized, but the value of a comparative study of disease in organic life will lead to most fruitful results. Chemotherapy must contribute to a science of comparative medicine that should shed as much light upon human diseases as comparative morphology has thrown upon an understanding of human evolution.

Mercury derivatives of some carbonyl compounds: EDWARD LYONS. New mercury compounds of several imids and their preparation are described. In these, the mercury joins the molecule through the carbonyl group, and in the case of saccharin, the SO_2 group functions as if 2 CO groups were present. Succinimide and phthalimide yield mono- and di-mercury compounds, saccharin yields mono-, di- and tri-mercury compounds.

The effect of glucose upon the toxicity and therapeutic efficiency of arsphenamine: GEORGE W. RAIZISS, M. SEVERAC and A. KREMENS. In 1917, Kopaczewski suggested the adding of glucose to solutions of arsphenamine in order to prevent immediate reactions, such as nitritoid crises, which sometimes follow the intravenous administration of the drug. It was found by others that glucose generally decreases the toxicity of arsphenamine and its derivatives. It has also been found that solutions of these drugs can be made more or less permanently stable if glucose is added. The authors found that chemical combination takes place between arsphenamine and glucose and they isolated such compounds. These authors further found that the addition of glucose solution decreases the toxicity of arseno compounds, but it diminishes their therapeutic efficiency to still greater extent. The therapeutic efficiency was tested on the albino rat infected with trypanosoma equiperdum.

Studies of the vitamin potency of cod liver oils—XIII —The vitamin A potency of dogfish liver oil: ARTHUR D. HOLMES and MADELEINE G. PIGOTT. Commercial fishermen have raised the question as to the value of dogfish liver oil as a source of the fat-soluble vitamins. To secure information in this connection, dogfish liver oil was prepared from average, mature fish of both sexes. The vitamin A potency of this oil was tested under the same laboratory conditions as employed for testing the vitamin A potency of cod liver oil. It was found that one milligram daily of this dogfish liver oil contained sufficient vitamin A to restore growth and health in albino rats suffering from vitamin A malnutrition.