prism, the conversion of starch into sugar took place more rapidly than in ordinary light. The present author experimenting on the biological effects of polarized light repeated these studies on diastase by a different method, and studied, furthermore, some other enzymes.

The effect of polarized light on the action of diastase was studied by using solutions of starch, adding definite quantities of taka-diastase solution to the same, and noting chemically, by the iodine reaction, the rapidity of diastatic enzyme action, in the dark on the one hand, and in polarized and non-polarized lights at the same temperature on the other hand. Polarized light was obtained through a large Nicol prism in some experiments, and by means of a pile of glass plates in others. The results obtained corroborated fully the observations of Miss Semmens. The conversion of starch into sugar took place more rapidly in polarized light than in non-polarized light of the same intensity.

Two other ferments were studied in this connection: rennin and catalase.

The rapidity of milk coagulation after addition of equal quantities of rennin to given amounts of milk was studied in polarized and non-polarized light. It was found that the clotting of milk took place more rapidly in polarized light than in non-polarized light of the same intensity and at the same temperature.

The effect of polarized light on the activity of blood catalase was studied also. In this case no constant difference was found in the catalase reaction of samples of blood exposed to polarized light and to non-polarized light.

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III.

The influence of polarized light on yeast and bacteria.

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In connection with the experiments on the biological effects of polarized light described in the preceding communications, a

study was made of the influence of such light on yeast and bacteria.

A suspension of ordinary baker's yeast, *Saccharomyces cerevisiæ,* was made, and equal quantities of such a suspension were added to solutions of sucrose in fermentation tubes. Such tubes were exposed to polarized light, and also to non-polarized light of the same intensity and at the same temperature. It was found that the fermentation of sugar in polarized light proceeded much more rapidly than in non-polarized light as indicated by the amount of carbon dioxide gas evolved in the fermentation tubes.

Following the experiments on yeast a number of other experiments were begun on smaller microscopic plants, namely bacteria. Cultures of *B. coli* and *B. typhosus* were exposed to polarized light, and also to non-polarized light of the same intensity and at the same temperature. While the number of experiments with bacteria so far has not been very great, the results obtained seem to indicate that the bacterial cultures grow more profusely in polarized light. These experiments will be continued on a larger scale but it was deemed advisable to announce the results obtained so far, in view of the most interesting communication published recently by T. F. Morrison of Princeton University,[1] concerning the effect of polarized light on the growth of certain luminous bacteria. This author found that such bacteria flourished better under polarized light. If the above observations should be confirmed by further repeated experiments the results obtained would be of great hygienic interest, showing from a new point of view the importance of out-door sunlight in the treatment of certain infections, as sunlight passing through windows is always more or less polarized.

[1] Morrison, T. F., *Science,* 1925, lxi, 392.