

# SCIENCE

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## A CHEMICAL STUDY OF ENZYME ACTION<sup>1</sup>

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IN making up the list of papers to be presented at this meeting to-day, it was stated that the intention was to "get at the fundamental things in enzyme activity." Since the chemical nature of an enzyme is as fundamental for the understanding of an enzyme action as any other factor, I shall present some results obtained during the last six years bearing on this question.<sup>2</sup> It will not be necessary to give a definition of enzymes here or to present a classification of enzyme actions. This has been done repeatedly and it would appear that at present nothing essential can be added in this respect. The question will be taken up as a chemical problem. Certain definite chemical changes may be accelerated under definite conditions; certain products obtained from living organisms have the property of accelerating these changes; these accelerations can be controlled within limits by altering the conditions. The problem in its simplest terms is the study of the chemical nature of these products of animal or plant origin which accelerate the changes. At the same time, influences physical in nature, such as the solvent and the colloidal properties of the materials must not be lost sight of, as they undoubtedly play a part in modifying the velocities of the reactions.

<sup>1</sup> Presented at the meeting on "Enzymes and their Behavior" before the Division of Biological Chemistry, American Chemical Society, Boston, September 12, 1917.

<sup>2</sup> The work was published in a series of papers in *J. Am. Chem. Soc.*, 1912-15, and in *Proc. Nat. Acad. Sci.*, 1, 136 (1915), 2, 557 (1916); *J. Biol. Chem.*, 31, 97 (1917).