

editor of *The Hexagon* of Alpha Chi Sigma, and Dr. E. K. Rideal, of Oxford University.

A MEETING of the American Section of the Société de Chimie Industrielle was held at Chandler Lecture Hall, Columbia University, on October 24, 1930. Mr. Arthur H. Sleight, who as a boy had met Michael Faraday and whose father was intimately acquainted with him, gave his personal recollections—incidentally bringing out the fact that Faraday was greatly interested in botany. Mr. Sleight exhibited Atkin's book on the flora of Great Britain, published in 1823, which his father and Faraday had jointly used in identifying the plants they found. Dr. René J. Dubos, of the Rockefeller Institute for Medical Research, then addressed the meeting on "Enzymes from Microorganisms and their Application to Industrial and Medical Problems."

A LABORATORY for the study of fresh-water animals of the United States is being installed at the University of Missouri at Columbia under supervision of Dr. Max M. Ellis, director of interior fisheries investigations for the United States Bureau of Fisheries and professor of physiology in the University of Missouri. Its completion within the next few weeks will provide a central point for the observation of chemical and physiological phenomena of fresh-water animals, to which various fresh-water problems of the Bureau of Fisheries will be referred. In order to provide adequate space for carrying on necessary experimental work, the University of Missouri has turned over a section of one of the medical buildings to the work. Funds for the installation of the laboratory were subscribed conjointly by the university and the Bureau of Fisheries.

DISCUSSION

GIBBS'S PHENOMENON

IN May 30, 1930, issue of *SCIENCE* there appeared a communication from Professor Tomlinson Fort, objecting to the use of the term "Gibbs's phenomenon" for series other than Fourier's series. As the only name which he cites in this connection is my own, readers may possibly infer that I am responsible for this extended use of the term. As this is quite contrary to the fact, I feel that I should make some comment on the point that Professor Fort has raised.

The various developments in orthogonal functions, such as Laplace's functions, Legendre's functions and Bessel's functions, which occur in mathematical physics, present so many analogies to the better-known Fourier's series that it is quite natural and logical to use for the former series an identical terminology in the case of similar properties. So far as Gibbs's phenomenon is concerned this was done as early as 1910 by Weyl¹ in two papers dealing with the behavior of developments in Laplace's functions, Legendre's functions and Sturm-Liouville functions. The extended meaning of the term in the case of Bessel's functions was used by at least one writer² prior to my own use of it. The terminology to which Professor Fort objects is therefore not a recent innovation, as his communication may suggest, but a well-established usage on the part of investigators in this field.

Aside from this point, however, I can not agree with several of Professor Fort's contentions. In the first place, the phenomenon in the case of Fourier's series was not first noticed by Gibbs, as he states. It is now

well known that it had been pointed out some fifty years earlier by Wilbraham.³ In the second place, while I entirely agree with Professor Fort as to the fundamental importance of Osgood's classical papers on the general theory of non-uniform convergence, I can not admit that they treat the same point as that involved in Gibbs's phenomenon. In Osgood's discussion the peaks of non-uniform convergence only occur in cases where the limit function is continuous. The examples which he gives of non-uniformly convergent series with discontinuous sum exhibit no peaks. One of the most essential characteristics of Gibbs's phenomenon is the appearance of peaks in the neighborhood of a point of discontinuity of the function developed. I think that it would be quite appropriate to use the term "Osgood's phenomenon" in the case where the limit function is continuous, but not in the situation where the term "Gibbs's phenomenon" has been generally used.

CHARLES N. MOORE

UNIVERSITY OF CINCINNATI

THE PRESENT STATUS OF LACTENIN

MENTION was made in an earlier number of this journal of our work on a bacteriostatic substance in milk. To avoid misunderstanding it seems well to summarize the properties and discuss the possible uses in so far as the present status of the problem permits.

It has been known for some time that milk which had not been heated above 60° C. will inhibit the growth of certain bacteria. We have studied the effect of this material on the mastitis streptococcus. It prevents growth for about six hours, after which

¹ *Rendiconti del Circolo Matematico di Palermo*, 29 (1910): 308; 30 (1910): 377.

² Cf. R. G. Cooke, *Proc. London Math. Soc.*, 27 (1928): 171.

³ Cf. historical notes by H. S. Carslaw and C. N. Moore, *Bull. Amer. Math. Soc.*, 31 (1925): 420, 417.