

SCIENCE

VOL. LVI DECEMBER 29, 1922 No. 1461

<i>The Explanation of the Colloidal Behavior of Proteins</i> : DR. JACQUES LOEB.....	731
<i>The Award of the Henry Draper Medal</i>	741
<i>Appeal on behalf of the League of Nations for Aid to Austrian Intellectual Workers</i>	743
<i>Scientific Events:</i>	
<i>London Bird Sanctuaries; The American Electrochemical Society; Professor Max Weber; Officers of the American Chemical Society; The Hayden Award of the Philadelphia Academy</i>	744
<i>Scientific Notes and News</i>	747
<i>University and Educational Notes</i>	750
<i>Discussion and Correspondence:</i>	
<i>Research in Marine Biology</i> : PROFESSOR W. J. CROZIER. <i>On Translating Einstein</i> : DR. E. E. SLOSSON. <i>On the Formation of Family Names like Tingide</i> : DR. H. M. PARSHLEY. <i>The Beginnings of American Geology</i> : DR. MARCUS BENJAMIN.....	751
<i>Quotations:</i>	
<i>The Federal Budget; The Appreciation of Science</i>	755
<i>Scientific Books:</i>	
<i>Glover's United States Life Tables</i> : PROFESSOR RAYMOND PEARL.....	756
<i>Special Articles:</i>	
<i>X-ray Crystallography; X-ray Wave Lengths; Space-lattice Dimensions and Atomic Masses</i> : DR. L. W. MCKEEHAN. <i>Peripheral Migration of a Centriole Derivative in the Spermatogenesis of Ecanthus</i> : DR. H. H. JOHNSON.....	757

SCIENCE: A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science, edited by J. McKeen Cattell and published every Friday by

THE SCIENCE PRESS

11 Liberty St., Utica, N. Y. Garrison, N. Y.

New York City: Grand Central Terminal

Annual Subscription, \$6.00 Single Copies, 15 Cts.
Entered as second-class matter January 21, 1922, at the Post Office at Utica, N. Y., Under the Act of March 3, 1879.

THE EXPLANATION OF THE COLLOIDAL BEHAVIOR OF PROTEINS¹

I

THIS year's Pasteur lecture coincides with the commemoration of the hundredth anniversary of Pasteur's birth. The application of Pasteur's ideas and discoveries has benefited humanity to such an extent that they have become part of the consciousness of civilized mankind. What is, perhaps, less widely understood is the fact that Pasteur changed the method of medical research. In the study of infectious diseases Pasteur substituted for the method of hit or miss (with the chances infinitely in favor of missing) the method of a definitely oriented search which never fails to give results when properly applied. Thousands of physicians had studied infectious diseases before Pasteur, but they tried to solve their problem by starting from observations of the symptoms of some special disease. This led to no result for the simple reason that without knowing beforehand for what to look—or, in other words, without knowing the general cause of infectious diseases—it was impossible to discover the cause of any special infectious process. Pasteur reversed this method by his discovery of the action and omnipresence of microorganisms, leaving it to the medical men to look for the special agency in the individual cases.

There is little doubt that the old empiricism, still in vogue in some other fields of medicine and in the physiological sciences, must be replaced by the more rationalistic method of Pasteur of knowing the general fundamental principles before attempting to explain the more special phenomena, since, unless we follow this method, we never know which of

¹ Pasteur Lecture delivered before the Institute of Medicine of Chicago on November 24, 1922.

Science

56 (1461)

Science **56** (1461), 731-760.

ARTICLE TOOLS

<http://science.sciencemag.org/content/56/1461.citation>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.