

# SCIENCE

Vol. 76

FRIDAY, DECEMBER 16, 1932

No. 1981

<i>Scientific Method and Social Relations</i> : B. E. SCHAAR .....	551	<i>Scientific Method and Social Relations</i> : B. E. A Delta Method for Studying Microscopic Sediments: PROFESSOR W. E. ALLEN. A New Use for Cellophane: PROFESSOR KENNETH LYLE WARREN. A New Medium for Bas-Relief Molds: F. MARTIN BROWN and ROGER W. WILLIS .....	572
<i>The Age of Meteor Crater</i> : PROFESSOR ELIOT BLACKWELDER .....	557	<i>Special Articles</i> :	
<i>Scientific Events</i> :		<i>The Occurrence of the Paralytic Shellfish Poison in the Common Sand Crab</i> : HERMANN SOMMER. <i>The Occurrence of Mottled Teeth in Iowa</i> : DR. CARL T. OSTHEM, PROFESSOR VICTOR E. NELSON, D. A. GREENWOOD and DR. H. A. WILHELM .....	574
<i>Reorganization of Federal Scientific Bureaus; Reductions in the Federal Budget for Scientific Work; Unemployed Chemists in New York City; Award of the Edison Medal to Bancroft Gherardi</i> .....	560	<i>Science News</i> .....	8
<i>Scientific Notes and News</i> .....	562		
<i>Discussion</i> :			
<i>St. Croix's Rainiest Year Causes an Epidemic of Malaria</i> : EARL B. SHAW. <i>Limestone Caverns</i> : PROFESSOR PRESTON E. JAMES. <i>Effect of an Iodide Fertilizer on Iodine Content of a Food Plant</i> : PROFESSOR A. B. BEAUMONT and DR. GEO. M. KARNs. <i>The Thomas Say Foundation Gets under Way</i> : PROFESSOR JAMES G. NEEDHAM .....	566		
<i>The American Association for the Advancement of Science</i> :			
<i>Biological Sciences at Atlantic City; Registration and Railway Rates</i> : DR. CHARLES F. ROOS .....	568		
<i>The National Academy of Sciences</i> :			
<i>Papers Presented at the Ann Arbor Meeting. III</i> .....	570		

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKEEN CATTELL and published every Friday by

## THE SCIENCE PRESS

New York City: Grand Central Terminal  
Lancaster, Pa. Garrison, N. Y.  
Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

## SCIENTIFIC METHOD AND SOCIAL RELATIONS<sup>1</sup>

By B. E. SCHAAR

CHICAGO, ILLINOIS

WITH rare exceptions, society owes a tremendous debt to science. The exceptions are concerned wholly with misapplications of the results of scientific discovery and not with the discoveries themselves.

The immediate task of the worker in pure science, and the term is used with full recognition of the fact that there is no sharp line of demarcation between pure and applied science, is the discovery of new principles, including very broadly in that term fundamental laws, atoms, molecules and their relations to one another and greater refinement of existing knowledge of those subjects. His concern is primarily with the advancement of knowledge *per se*, with satisfying his own curiosity regarding the nature of things, usually with no thought to the practical purposes to which his work may be applied nor to monetary con-

sideration. The worker in applied science, on the other hand, finds himself concerned with application of known principles to the production of commodities which are to be marketed, consequently, also very broadly and with many exceptions his ultimate goal is profit either to himself or to his employer.

The chemist has been able to make a much greater contribution to the welfare of mankind than other scientific men, because his field is fundamental, dealing with matter in its endless variety. Although it is hardly necessary before a group of chemists to mention specifically many of the countless examples where the influence of the chemist is felt either directly or indirectly, some few may be cited in order to indicate the present relation of the chemist to society. These may be grouped broadly into two classes, the first including substances which are utilized directly by the body, such as foods, drugs, cosmetics, etc., and the

<sup>1</sup> Address as retiring chairman of the Chicago Section of The American Chemical Society, September 23, 1932.

*Where Gates: Elementary Psychology is the class text, study will be facilitated if students are equipped with*

## **Brown's WORKBOOK IN ELEMENTARY PSYCHOLOGY**

*Epecially prepared by A. E. BROWN, Associate Professor of Education in Iowa State Teachers College, for the day-by-day study of Arthur I. Gates' popular textbook.*

**T**HIS WORKBOOK, containing forty-one lessons and four reviews, furnishes assignments to the Gates text and references to various accessory works, directions for study, notes on the assignment context, additional material which throws the light of the very latest research on the topics under consideration, and enough exercises on each assignment to drive home every significant point.

### ***Each unit a day's work***

Rather than covering large blocks of material as is often done in workbooks, this study guide has been carefully laid out in units corresponding to the work a student should accomplish from one class to the next. Each chapter in the Gates text is the basis of from one to three of these units. Instructors will appreciate this clear-cut organization, which simplifies the assignment problem notably, and, if properly utilized, assures the assimilation of each day's lesson before the next is begun.

### ***Tested***

This workbook is not a collection of untried material. Carefully tested in a controlled experiment at the author's institution it was found to assist students to a definitely superior performance. It is now offered to the wide and growing group of classes where the Gates text is in use, in hopes that it will aid students everywhere toward the complete assimilation of this excellent work.

### ***Diversified Exercises***

Usually as many as forty exercises are given on each assignment, and the review exercises, which are introduced at suitable points to provide a larger view and to maintain proper connections, contain even more. Many types of exercises are employed throughout the workbook—at least four different types for each lesson, selected to present the material in its most appropriate and effective form. Among the types used are: Yes-No Questions, Completion Exercises, Matching Exercises, Picking out the Misfitting Term, Questions for Written Exposition or Interpretation, Analogies, Incomplete Outlines, Sentence Answers, etc.

### ***Convenient Format***

The workbook contains 182 pages, perforated for ready detachment, and punched for insertion in a ringed note book cover. It is bound in heavy gray paper.

The WORKBOOK, \$1.25

Gates: ELEMENTARY PSYCHOLOGY, \$2.60

## **THE MACMILLAN COMPANY**

*60 Fifth Avenue, New York City*