occurred to the writer that it would be of interest to know whether the glutamic acid of an antitoxin is also partially racemized. If this were the case it would help to explain the great resistance of certain antitoxins toward cleavage by proteolytic enzymes.

Accordingly, a sample of refined and concentrated scarlet fever antitoxin[2] containing three grams of protein was hydrolyzed by hydrochloric acid and the glutamic acid isolated by Foreman's barium salt method. After four recrystallizations the glutamic acid hydrochloride melted at 203° C. and gave the following analysis:

Found:	C, 32.82%; H, 5.48%; N, 7.66%
Calculated for $C_5H_{10}O_4NCl$:	C, 32.69%; H, 5.49%; N, 7.63%

The specific rotation in 9 per cent. hydrochloric acid was $[\alpha]_D^{27°} = +32.2°$ when calculated as the free acid (49.5 mg in 3.06 cc gave a rotation of +0.42° in a one dm. tube). This value is in good agreement with that of d-glutamic acid, +31.5°.

It is therefore apparent that at least the glutamic acid of scarlet fever antitoxin is of the normal configuration. Whether this situation extends to other amino acids and other antitoxins remains to be seen.

ROBERT D. COGHILL
YALE UNIVERSITY

LUCITE

IN my recent paper, " 'Lucite' for microscopic Transillumination," published in SCIENCE, Volume 89, No. 2312, April 21, 1939, I made the following statement: "This is presumably the first report of the use of Lucite for this purpose and as a substitute for the Abbe Condenser."

Dr. Elbert C. Cole, of Williams College, has kindly called my attention to the fact that a paper written by him in SCIENCE in April, 1938, entitled "Methyl Methocrylate as a Laboratory Tool," suggested the use of this substance for illuminating living tissue for observation with the microscope. I gladly give Dr. Cole priority as to the use of this substance for illumination.

LEE S. FENT

SCIENTIFIC BOOKS

A HISTORY OF SCIENCE

A History of Science, Technology and Philosophy in the 18th Century. By A. WOLF, professor of the history of science in the University of London. 814 pp., with 345 illustrations. The Macmillan Company, New York, 1939. $8.00.

IT is probably universally true that every reviewer wishes to criticize a book within his own field of interest, and particularly from his own point of view. But, in the case of the volume before us, Wolf's "History of Science, Technology and Philosophy," a reviewer must necessarily take a four-dimensional point of view in order to encompass all that is printed within its 814 pages. The thirty-two chapter headings, beginning with eighteenth century mathematics and ending with philosophy, have called forth all that is implied in pure science and technology, including agriculture, scientific instruments, building, transportation, metallurgy, telegraphy, psychology, medicine, economics, social science, geography and philosophy. This wide range of subject-matter is new from the standpoint of the purely academic treatment of the history of science; it should require, therefore, a group of reviewers or encyclopedists to evaluate properly the true merit of this book.

This volume is the second of a series planned by Professor Wolf, and is of the same general character and scholarship as the first book, which was critically reviewed in SCIENCE.[1] The main points of criticism which Dr. Sigerist brought out in this review concerning the treatment of the history of science in the sixteenth and seventeenth centuries are still valid in the volume for the eighteenth century. There is the same lack of coordination and continuity of subject-matter, and there is no critical analysis of the theory, work and philosophy of each scholar, inventor and philosopher. According to Professor Wolf's treatment in the historical method, each field of activity has gone its own appointed way without apparent reference to the basic sciences.

Modern science has its heritage, and a rich one, from the past. Each succeeding age or century shows something of a mathematical progression in its accomplishments. Accordingly the sixteenth and seventeenth centuries were treated in one volume, while the eighteenth century alone required one volume with one hundred pages more for its treatment. The eighteenth century was a critical one in that scientific discoveries, based upon fundamental principles and natural laws, were asserting themselves in the form of practical application to the needs of society and the betterment of man. Professor Wolf has shown that advances were made in almost every field of intellectual enterprise and that there was an unprecedented spread of knowledge beyond the circle of the specialists. He has by comparison shown that the age of enlightenment was a worthy heir to the age of genius. But he has treated upon this only in the form of chapters on independent subjects, and not as a continuous history

[2] Kindly furnished by Parke, Davis and Company.
[1] SCIENCE, 83: 2150, 262–264, March 13, 1936.