#### OFFICIAL COMMUNICATIONS

Meetings of the Society have been fixed at the following times and places:

NEW YORK CITY, February 22, 1930.

Abstracts must be in the hands of the Secretary of the Society, Professor R. G. D. Richardson, 501 West 116th St., New York City, not later than February 1. An invited address will be given by Mr. E. C. Molina on The theory of probabilities.

STANFORD UNIVERSITY, CALIFORNIA, April 5, 1930.

Abstracts must be in the hands of Associate Secretary T. M. Putnam. University of California, Berkeley, Calif., not later than March 8.

### New York City, April 18-19, 1930.

Abstracts must be in the hands of the Secretary of the Society, Professor R. G. D. Richardson, 501 West 116th St., New York City, not later than March 28. The Committee on Program is arranging a symposium on Differential Geometry, in which Professors Oswald Veblen, L. P. Eisenhart, W. C. Graustein, and others will participate.

### CHICAGO, April 18-19, 1930.

Abstracts must be in the hands of Associate Secretary M. H. Ingraham, University of Wisconsin, Madison, Wisconsin, not later than March 28. An invited address will be given by Professor Henry Blumberg on Methods in point sets and the theory of real functions.

R. G. D. RICHARDSON, Secretary of the Society.

Articles for insertion in the BULLETIN should be addressed to E. R. HEDRICK, Editor of the BULLETIN, University of California at Los Angeles. Reviews should be sent to W. R. Longley, Yale University, New Haven, Conn. Notes should be sent to H. W. Kuhn, Ohio State University, Columbus, Ohio.

Subscriptions to the BULLETIN, orders for back numbers, and inquiries in regard to non-delivery of current numbers should be addressed to the American Mathematical Society, Menasha, Wis., or 501 West 116th Street, New York.

Advertising space is available in the BULLETIN at \$16 per page, \$9 per half page, \$5 per quarter page, per issue. Address correspondence regarding advertising to H. L. Rietz, University of Iowa, Iowa City, Iowa.

Changes of address of members should be communicated at once to the Secretary of the Society, R. G. D. RICHARDSON, 501 West 116th Street, New York.

The initiation fees (\$5.00) and the annual dues (\$6.00) of members of the Society are payable to the Treasurer of the Society, W. B. FITE, 501 West 116th Street, New York.

# WHOLE NUMBER 364

# CONTENTS

	PAGE
An Announcement. By The Editors	1
The Society's Prizes. By R. G. D. RICHARDSON	3
The October Meeting in New York. By Arnold Dresden	5
The Thanksgiving Meeting in Ann Arbor. By M. H. INGRAHAM	8
The Thanksgiving Meeting in Pasadena. By B. A. Bernstein	10
Batchelder on Difference Equations. By K. P. WILLIAMS	13
Hellinger-Toeplitz on Integral Equations. By J. D. TAMARKIN	15
Fry on Probability. By D. J. Struik	19
Hilbert and Ackermann on Mathematical Logic. By C. H. LANGFORD	22
Nörlund on Finite Differences. By R. D. CARMICHAEL	25
Shorter Notices	27
Notes	41
Abstracts of Papers	45

For official Communications and Notices, see the inside of the back cover.