

## OFFICIAL COMMUNICATIONS

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

NEW YORK CITY, October 26, 1929.

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 October 5. An invited address will be given by Professor Tomlinson Fort; see page 740.

CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA, November 29, 1929.

Abstracts must be in the hands of Associate Secretary B. A. Bernstein, University of California, Berkeley, Calif., not later than November 1. By invitation of the Program Committee. An invited address will be given by Professor M. W. Haskell; see page 740.

ANN ARBOR, MICHIGAN, November 29-30, 1929.

Abstracts must be in the hands of Associate Secretary M. H. Ingraham, University of Wisconsin, Madison, Wisconsin, not later than November 7. Invited addresses will be given by Professors Tomlinson Fort and L. M. Graves; see page 740.

BETHLEHEM, PENNSYLVANIA, ANNUAL MEETING, December 27-28, 1929.

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 November 30. A symposium on the differential equations of engineering has been arranged; invited addresses will be given by Professors H. W. March, Vannevar Bush, S. Timoshenko, Dr. T. H. Gronwall, Dr. A. Nadai, and Mr. R. H. Park; see page 740.

DES MOINES, IOWA, December 30-31, 1929.

Abstracts must be in the hands of Associate Secretary M. H. Ingraham, University of Wisconsin, Madison, Wisconsin, not later than November 30. There will be the usual joint session with Section A of the American Association for the Advancement of Science and with the Mathematical Association of America. Addresses will be given by Professors L. L. Dines and O. D. Kellogg; see page 740. The Josiah Willard Gibbs address by Professor Fisher on *Application of mathematics to the social sciences*, will be held on Tuesday, December 31. More detailed announcements will be made later.

NEW YORK CITY, February 21, 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*.

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.

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 362

### CONTENTS

	PAGE
Portrait of HENRY BURCHARD FINE.....	Frontispiece
The June Meeting in Berkeley. By B. A. BERNSTEIN.	593
The Problem of the Cubic Variety in $S_4$ . By VIRGIL SNYDER.....	607
On the Location of the Roots of Polynomials and Entire Functions. By E. B. VAN VLECK.....	643
An Announcement regarding Factor Stencils. By D. N. LEHMER.....	684
On a Problem in the Theory of Groups arising in the Foundations of Infinitesimal Geometry. By H. P. ROBERTSON and HERMANN WEYL.....	686
Note on Linear Transformations of $n$ -ics in $m$ Variables. By A. D. CAMPBELL.....	691
Non-Existence Theorems of the Number of Repre- sentations of Arbitrary Odd Integers as Sums of $4r$ Squares. By E. T. BELL.....	695
Non-Isolated Critical Points of Functions. By W. M. WHYBURN.....	701
Symmetric Functions of $n$ -ic Residues (mod $p$ ). By T. A. PIERCE.....	708
Singular Manifolds among those of an Analytic Family. By O. D. KELLOGG.....	711
On the Foundations of Infinitesimal Geometry. By HERMANN WEYL.....	716
Henry Burchard Fine—In Memoriam. By OSWALD VEBLEN.....	726
De Vries on Four Dimensions. By H. P. MANNING..	731
Picard on Partial Differential Equations. By T. H. GRONWALL.....	733
Shorter Notices.....	735
Notes.....	740
New Publications.....	747

---

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