ing values of the estimated number of bacteria per c.c.; that is, the odds are even that this number lay between 14.82 and 17.31, about 4.6 to 1 that it lay between 13.72 and 18.72, about 22 to 1 that it lay between 12.69 and 20.22, and nearly 142 to 1 that it lay between 11.74 and 21.86.

This, I believe, answers Dr. Johnstone's question in so far as the small series of counts permit. The problem is typical of many that have not received due consideration by either biologist or statistician; and conclusions departing widely from the truth are continually being reached through failure to apply any criterion of reliability on the one hand, and through an erroneous application of the probable error on the other hand. It is hoped this brief presentation will stimulate discussion.

ELLIS L. MICHAEL

SCRIPPS INSTITUTION,
　LA JOLLA

THE AMERICAN MATHEMATICAL SOCIETY

THE twenty-sixth annual meeting of the society was held at Columbia University on Tuesday and Wednesday, December 30–31, with the usual morning and afternoon sessions on each day. The attendance included 96 members. President Frank Morley occupied the chair, being relieved at the last session by Professor J. L. Coolidge. The following new members were elected: Dr. H. E. Bray, Rice Institute; Professor I. L. Miller, Carthage College; Dr. Helen B. Owens, Cornell University; Professor E. W. Pehrson, University of Utah. Ten applications for membership were received.

At the annual election the following officers and other members of the council were chosen: vice-presidents, C. N. Haskins and R. G. D. Richardson; secretary, F. N. Cole; treasurer, J. H. Tanner; librarian, D. E. Smith; committee on publication, F. N. Cole, Virgil Snyder, and J. W. Young; members of the council to serve until December, 1922, T. H. Hildebrandt, Edward Kasner, W. A. Manning, H. H. Mitchell.

The total membership of the society is now 733, including 80 life members. The total attendance of members at all meetings, including sectional meetings, during the past year was 393; the number of papers read was 187. The number of members attending at least one meeting during the year was

252. At the annual election 156 votes were cast. The treasurer's report shows a balance of $10,-692.23, including the life membership fund of $7,168.87. Sales of the society's publications during the year amounted to $1,811.52. The library now contains 5,690 volumes, excluding some 500 unbound dissertations.

It was decided to proceed with the incorporation of the society under the general law of the state of New York. A committee was appointed to consider plans for the organization and administration of the society after the retirement of the present secretary and librarian from their offices at the close of the present year. A committee was also appointed to consider the formation of an international union of mathematicians. The committee on mathematical requirements presented a report, which was laid over for consideration at the February meeting.

The following resolutions, introduced by Professor R. C. Archibald as chairman of the committee on bibliography, were adopted by the council:

The council regards the preparation and publication, in America, of a dictionary of mathematical terms as not only most desirable but also entirely feasible, provided that financial aid for the preparation of the manuscript can be secured.

Impressed with possibilities for the more extensive development of pure and applied mathematics in America, and with the importance of such development to the nation, the Council records its conviction that there are undertakings whose active consideration would be highly desirable if adequate financial assistance might be regarded as available. Among such undertakings are: 1. The preparation and publication by societies or individuals of surveys, introductory monographs, translations, memoirs, and treatises, in important fields, including the history of mathematics. 2. The organization of research fellowships. 3. The preparation and publication of an encyclopædia of mathematics in English. 4. The preparation and publication of an annual critical survey, in English, of the mathematical literature of the world. 5. The preparation and publication of a biographical and bibliographical dictionary of mathematicians.

The meeting of the society immediately preceded that of the Mathematical Association of America on January 1–2. A very pleasant occasion was the joint dinner of the two organizations on New Year's eve with an attendance of 114 members and friends.

The following papers were read at the annual meeting:

The sum of the face angles of a polyhedron in space of n dimensions: H. F. MACNEISH.

A connected set of points which contains no continuous arc: G. A. PFEIFFER.

Fundamental types of groups of relations of an infinite field: C. J. KEYSER.

The theorem of Thomson and Tait and its converse in space of n dimensions: JOSEPH LIPKA.

Poncelet polygons in higher space: A. A. BENNETT.

Continuous matrices, algebraic correspondences, and closure: A. A. BENNETT.

Concerning points of inflection on a rational plane quartic: L. A. HOWLAND.

Geodesics motion on a surface of negative curvature: H. C. M. MORSE.

The geometry of Hermitian forms: J. L. COOLIDGE.

Rotations in space of even dimensions: H. B. PHILLIPS and C. L. E. MOORE.

Note on geometric products: C. L. E. MOORE and H. B. PHILLIPS.

A memoir upon formal invariancy with regard to binary modular transformations: O. E. GLENN.

The invariant problem of the relativity transformations of Lorentz appertaining to the mutual attraction of two material points: O. E. GLENN. (Preliminary report.)

The mean of a functional of arbitrary elements: NORBERT WIENER.

Bilinear operations generating all operations rational in the domain Ω: NORBERT WIENER.

Fréchet's calcul fonctionnel and analysis situs: NORBERT WIENER.

A set of postulates for fields: NORBERT WIENER.

On the location of the roots of the jacobian of two binary forms, and of the derivative of a rational function: J. L. WALSH.

On the proof of Cauchy's integral formula by means of Green's formula: J. L. WALSH.

On the order of magnitude of the coefficients in trigonometric interpolation: DUNHAM JACKSON.

A problem of electrical engineering: P. L. ALGER.

Properties of the solutions of certain functional differential equations: W. B. FITE.

Determination of the pairs of ordered real points representing a complex point: W. C. GRAUSTEIN.

Sheffer's set of five postulates for Boolean algebras in terms of the operation "rejection" made completely independent: J. S. TAYLOR.

$_nE_x$, the magic wand of actuarial theory: C. H. FORSYTH.

A formula for determining the mode of a frequency distribution: C. H. FORSYTH.

Asymptotic orbits near the equilateral triangle equilibrium points in the problem of three finite bodies: DANIEL BUCHANAN.

The definition of birational transformations by means of differential equations: C. L. BOUTON.

Area-preserving, parallel maps in relation to translation surfaces: W. C. GRAUSTEIN.

Note on linear differential equations of the fourth order whose solutions satisfy a homogeneous quadratic identity: C. N. REYNOLDS, JR.

A practical problem of aerodynamics and thermodynamics: J. E. ROWE.

A property of permutation groups analogous to multiple transitivity: W. B. CARVER and MRS. E. F. KING.

Some pseudo-finiteness theorems in the general theory of modular covariants: OLIVE C. HAZLETT.

Note on the rectifiability of a twisted cubic: MARY F. CURTIS.

The representation of fractions of periods on algebraic curves by means of virtual point sets: TERESA COHEN.

Necessary and sufficient conditions that a linear transformation be completely continuous: C. A. FISCHER.

On the structure of finite continuous groups with a single exceptional infinitesimal transformation: S. D. ZELDIN.

On the location of the roots of the derivative of a polynomial: J. L. WALSH.

Abstracts of the papers will appear in the March issue of the society's *Bulletin.*

The thirteenth western meeting of the society, being a joint meeting of the Chicago and Southwestern Sections, was held at St. Louis on the same days as the meeting in New York. The next regular meeting of the society will be held in New York on February 28.

F. N. COLE,
Secretary